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FIRE ENGINEERING

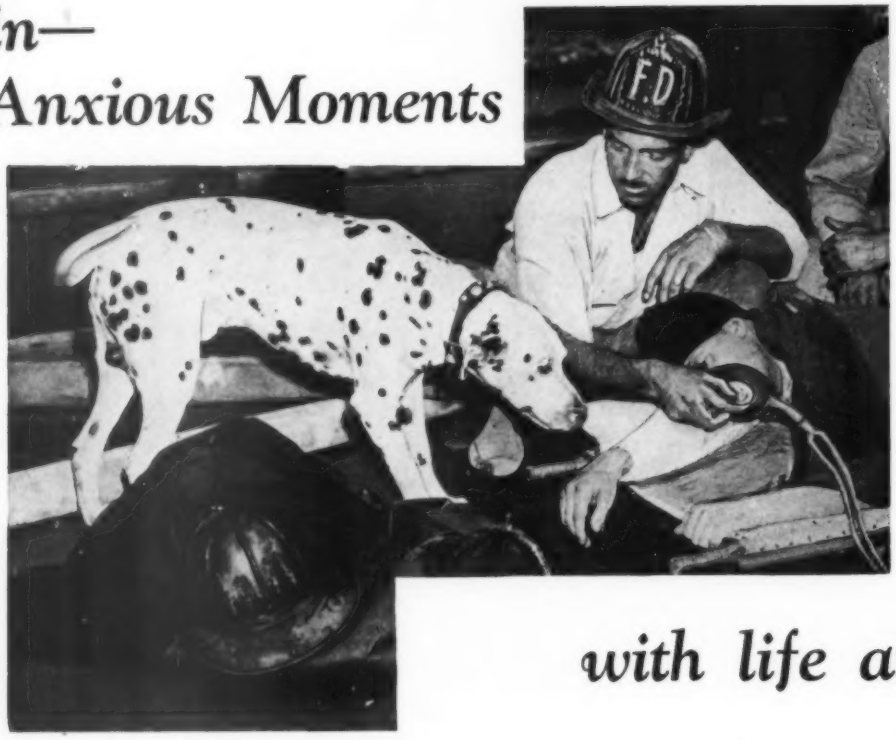
The Journal of the Fire Protection Profession Since 1877

APRIL, 1945

Puerto Rican Fire Levels Half of Community

A CASE - SHEPPERD - MANN PUBLICATION

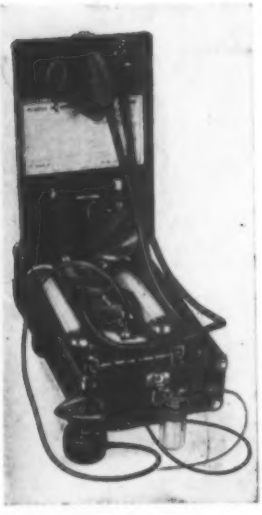
in—
Anxious Moments



with life at stake—

Depend on An

EMERSON
RESUSCITATOR



When you encounter critical cases of smoke suffocation, shock or drowning, put your dependence on an apparatus that has proved its worth in the research laboratory and in use in thousands of cases of advanced asphyxia.

You, Chief, need every man on your staff. Your life-saving equipment must be dependable for their safety as well as others. Be sure—be ready not only with a resuscitator but the best obtainable—EMERSON.

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How POWER is built into this FEDERAL Traffik-King COASTER SIREN

FEDERAL SIREN FEATURES

Rotor: die-cast zinc alloy or cast aluminum; precision machined and individually balanced. Large air volume slips easily past the thin, smooth rotor blades; minimum current consumption.

Ports: knife-edge ports in rotor and stator assure sharp, true pitch, tremendous volume. Accurately spaced, carefully machined for tone quality, clearness, and power. Number of ports balanced with motor speed for high efficiency.

Coaster Brake: stops roll, and sound, instantly; operated by separate button on dash. This is actual electric solenoid brake on the rotor; no harmful reversing of motor.

Motor: heavy duty, long life; low friction bronze or ball bearings; 6 to 12 volt models.

Oscillating Red Light: driven by separate motor enclosed in front housing; no external parts to freeze or jam; swings horizontally; no wasteful up-and-down motion.

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Traffik-King sirens have a tremendously powerful tone that demands attention, clears the way. This model has a clear-cut distinctive double tone; and coasts almost two minutes after current is off.

This is a true coaster type. Special clutch mechanism releases the rotor, allowing it to coast much longer than so-called "long-roll" types, which seldom roll over 30 seconds. Siren can be stopped instantly with the electric brake, which is available if desired.

A wide choice of Federal sirens is available—with oscillating or flashing lights; single or double tone; special brackets available for roof or fender mounting. All are durably built and precision-machined for long service and powerful clear-the-way tone. For fire, police, ambulance, general alarm, and industrial use. Write for illustrated bulletin on types you need.

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FEDERAL ELECTRIC COMPANY, INC.

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FIRE ENGINEERING

A Consolidation of Fire and Water Engineering, The Fire Engineer and Fire Protection

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FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

READERSHIP—
High—Wide—and Hustling

WE are continually being surprised at the extent and degree to which the content—editorial and advertising alike—of FIRE ENGINEERING is read, and the action precipitated by that readership.

● Latest evidence is found in a letter just received from a reader-contributor now in the Armed Service. He says:

> *"The October, 1944, issue of FIRE ENGINEERING carried a story and picture on the 87th Anniversary of the Potsdam, N. Y., Fire Department. The story mentioned that the department planned to purchase a portable flood lighting system when government restrictions were lifted. . . . I was recently home on a ten-day furlough and Chief James J. Doyle informed me that as a result of the story he had received numerous inquiries from equipment companies selling flood lights. . . ."*

● There aren't many fire equipment distributors and dealers in this country—compared with the number of fire departments; numerically their total is only a very small percentage of FIRE ENGINEERING'S entire reader family. But this little group is a very potent factor in the distribution, sale and maintenance of the nation's fire apparatus, appliances and equipment.

● Therefore it is with no little pride that we acknowledge their interest in FIRE ENGINEERING and the promptness with which they translate its editorial content into action. These distributors and dealers and their sales representatives, together with those of the apparatus and equipment manufacturers, are real entities in the great and growing fire service family. They may speak a different language than the professional fireman, but they quite evidently have a common reader interest in "FE".

The Publishers

FIRE ENGINEERING

The Journal of the Fire Profession since 1877; published on the fifteenth of each month by Case-Shepperd-Mann Publishing Corp., 24 West 40th St., New York 18, N. Y., also publishers of *Water Works Engineering, Sewage Works Engineering*, etc. ¶Subscription price U. S. and Latin America, $2.50 a year; Canada, $3; Foreign, $3.50; Single copies, 25c. ¶Member of Audit Bureau of Circulations and Associated Business Papers, Inc. ¶Entered as second-class matter April 15, 1929, at the Post Office at New York, N. Y., under Act of March 3, 1879.

¶Contents of this issue copyrighted, 1945, by Case-Shepperd-Mann Publishing Corp.

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Will afford YOU the opportunity to render it

- **YOU OWE IT TO YOURSELF** to keep posted on new developments in the field by acquiring the technical information and other valuable data supplied *only* by the Association.

  Become a member of the Association which alone—and in your interest—is fighting for the advancement of the Fire Service.

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- **YOU WILL RECEIVE ANNUALLY** a 240-page Technical Handbook of Conference Proceedings including the latest ideas in Fire Fighting and Fire Prevention—24 Bulletins on fire protection topics and all Pamphlets and Regulations issued by the National Board of Fire Underwriters—Special bulletins on Legislation, Fire Protection and other matters affecting the interests of the Fire Service.

- **YOUR MEMBERSHIP** will increase the prestige of the I.A.F.C.—the recognized Voice of the Fire Service—JOIN NOW, and add your efforts towards its success.

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Individuals interested in fire extinguishment and fire prevention

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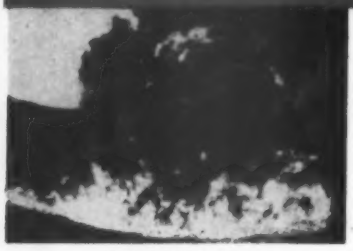
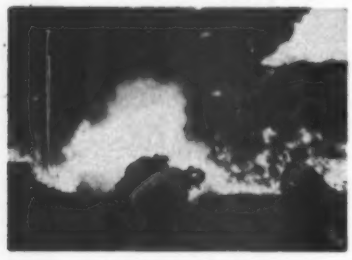
BLAZING FIRES WIPED OUT!



1. A Hot Oil Fire!



2. Firemen Go In!

3. They Move In Closer!

4. Flames Knocked Down!

5. Fire Practically Out!

Fires Fought by Local Firemen

The FMC High-Pressure Tests conducted at Endicott, N. Y., proved two things:

First: That an average fireman, without previous high-pressure experience, can use FMC High-Pressure Fog and use it effectively.

Second: That the tests showed the real value of FMC High-Pressure Fog under actual fire-fighting conditions.

Various inflammable liquid fires were touched off and *extinguished* efficiently with FMC High-Pressure Fog.

Later—a tinder-dry house was set on fire several times with gasoline and oil. And—*the last big house fire of the series was knocked down in one minute, with less than 70 gallons of water.*

And remember—these tests were set up and conducted by the local Chief and extinguished by his firemen.

Investigate! Get the facts about this new and revolutionary fire-fighting technique.

EFFECTIVE ON ALL TYPES OF FIRES

Stores
Barns
Silos
Farm Houses
Residences
Boats
Docks
Transformers
Chicken Houses
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Grain Fields
Factories
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Paint Booths
Blower Systems
Quenching Tanks
Oil Fires
Hotel Fires
Restaurants
Night Clubs
Gas Stations
Cars and Trucks
Warehouses
Bowling Alleys
Tar Kettles
Sawdust Piles
Airplanes
Airport Hangars
Gas
Gasoline
Grass
and many others

1. House Set Afire!

2. Blazing Merrily!

3. Firemen Start Work!

4. Partly Under Control!

5. Out—In One Minute!

BUILDERS OF BEAN HIGH-PRESSURE

MORE PROOF! FMC HIGH-PRESSURE FOG SMOTHERS FIRES—FAST!

Nothing Else Like It! You get action—*fast*—with the FMC High-Pressure Fog Fire Fighter. And here's why!

The FMC Fog Fire Fighter easily maintains *800 lbs. pump pressure*—better than *600 lbs. nozzle pressure.* This high pressure gives you a combination of high velocity and finely-atomized fog—just what you need to *blast, cool* and *smother* flame. Every droplet of water is broken up into thousands of tiny particles that can be "blasted" into the source of the fire.

One gallon of this finely-atomized fog—properly used—has the fire-quenching possibilities of many times that of low-pressure water.

★ ★ ★

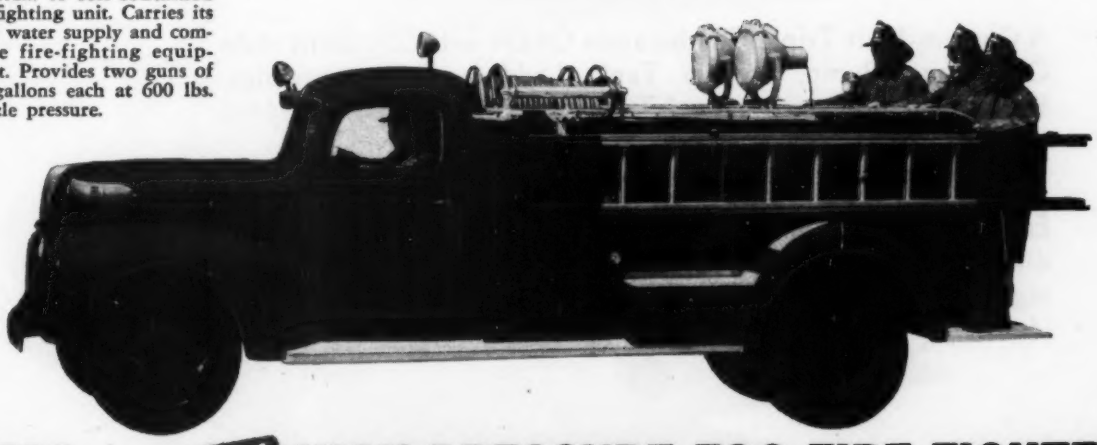
IT'S THE PRESSURE AND THE PUMP!

800 LBS. AT THE PUMP! That's a pretty tough job for any unit. But—the FMC High-Pressure Pump is built to deliver and maintain that pressure. The reason? This pump—built only by Bean—is different from all other pumps and is designed especially for high-pressure work by high-pressure pump engineers.

FMC FOG FIRE GUN. Designed especially for high-pressure fog fire fighting. Note these features:

1. Protective Spray. Special spray protects face and shoulders from heat.
2. Adjusting Barrel. By turning barrel, flow can be changed from a straight "power" stream to a close-up fog for any type of fire.
3. Trigger Grip. Gives natural position to arm and grip, and is easy to hold. No fatigue.
4. Gun Lock. Stream can be set in any pattern and locked there if desired.
5. Hose Swivel. Eliminates bothersome twisting of hose.

STANDARD FMC FOG FIRE FIGHTER. A self-contained fire-fighting unit. Carries its own water supply and complete fire-fighting equipment. Provides two guns of 30 gallons each at 600 lbs. nozzle pressure.



FMC *Original* HIGH-PRESSURE FOG FIRE FIGHTER

CAN BE MOUNTED ON MOST STANDARD TRUCK CHASSIS

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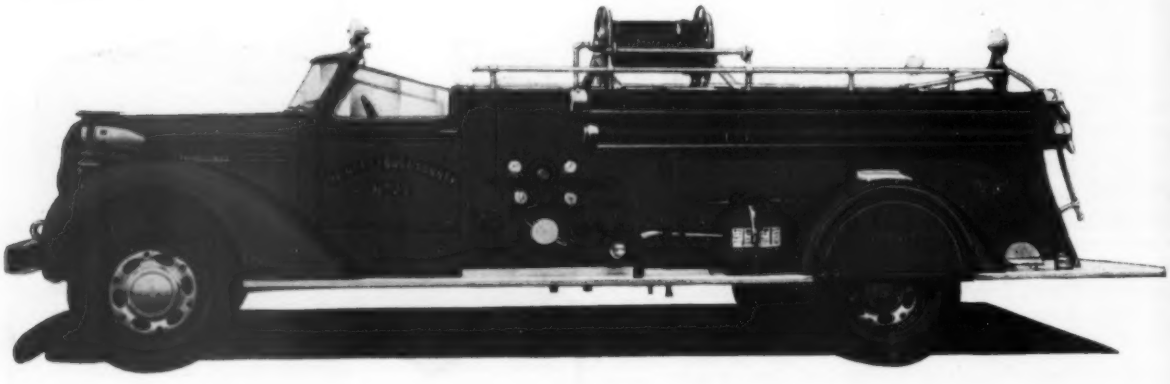

CUSTOM-BUILT OR

A Custom-Built Triple Combination OREN with 500 GPM Hale Centrifugal Pump, Booster Tank, Ladders and accessories. Equipment built on Diamond T Chassis and recently delivered to Tuxedo-Cheverly Vol. Fire Dept., Hyattsville, Md.

Each truck modernized, designed and built to meet the individual needs of the purchasing fire department . . . combining valuable features of both customer and Oren engineered ideas.

OREN FIRE APPARATUS COMPANY

ROANOKE, VIRGINIA

"The South's Only Fire Truck Manufacturer"

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Another FIRE DEPARTMENT MODERNIZED!

A Custom-Built Triple Combination OREN with 500 GPM Hale Centrifugal Pump and 200 gallon Booster Tank. Complete with 35 foot aluminum Ladder mounted overhead and 24 foot Extension Ladder side mounted with 12 foot Roof Ladder, also of aluminum. Equipment built on Ford Chassis and recently delivered to and used by Fire Department at Salem, W. Va.

OREN DEPENDABLE

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ALLENTOWN, PA. Repeats

with the E & J RESUSCITATOR INHALATOR and ASPIRATOR

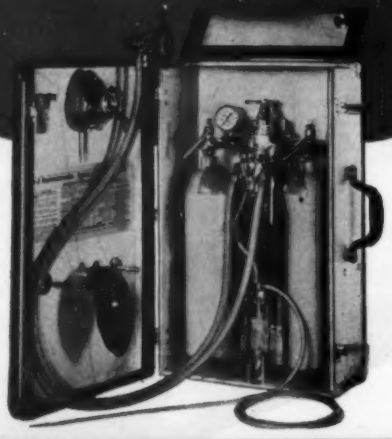
FIRST CHOICE IN FIRST AID

The Allentown, Pa. Fire Department believes that one good resuscitator deserves another of the same kind. They bought their first E & J machine (at right in above photo) in 1938. It gave such good results another unit—one of the newer E & J models —was added in 1943. Both are now in regular service.

Allentown also has other important E & J users, including two major hospitals and the Consolidated Vultee Aircraft Co.

Long years of experience have proven the dependability of the E & J. That's why so many Fire Departments, Hospitals and Industrial Plants are repeat buyers.

☆ *For further information write any of our distributors listed below.* ☆



E & J MANUFACTURING CO., GLENDALE, CALIF.

Pioneers and Specialists in Mechanical Artificial Respiration

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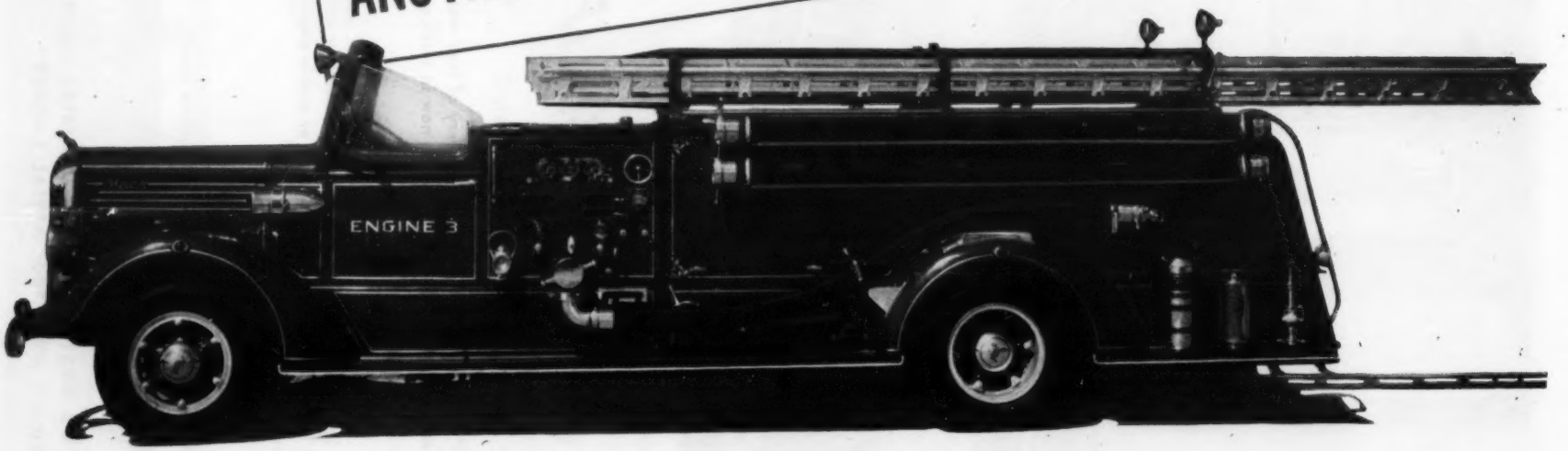

There's one thing that is special about every piece of Mack fire-fighting equipment . . . that's tough, durable dependability!

This Triple Combination Pumper, owned by the City of Oceanside, California, is equipped with a specially-built unit to accommodate a 35 to 50 foot ladder. However, it was the well-known reliable Mack qualities that recently prompted the firemen of Oceanside to order another Mack.

ARMY E NAVY

BUY WAR BONDS

MACK MANUFACTURING CORPORATION, FIRE ENGINE DIVISION
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Mack
FIRE
APPARATUS

If your community needs additional fire-fighting equipment or replacements, think of Mack. Remember, Mack Fire Apparatus is backed by the greatest engineering resources in the industry.

PERFORMANCE COUNTS!

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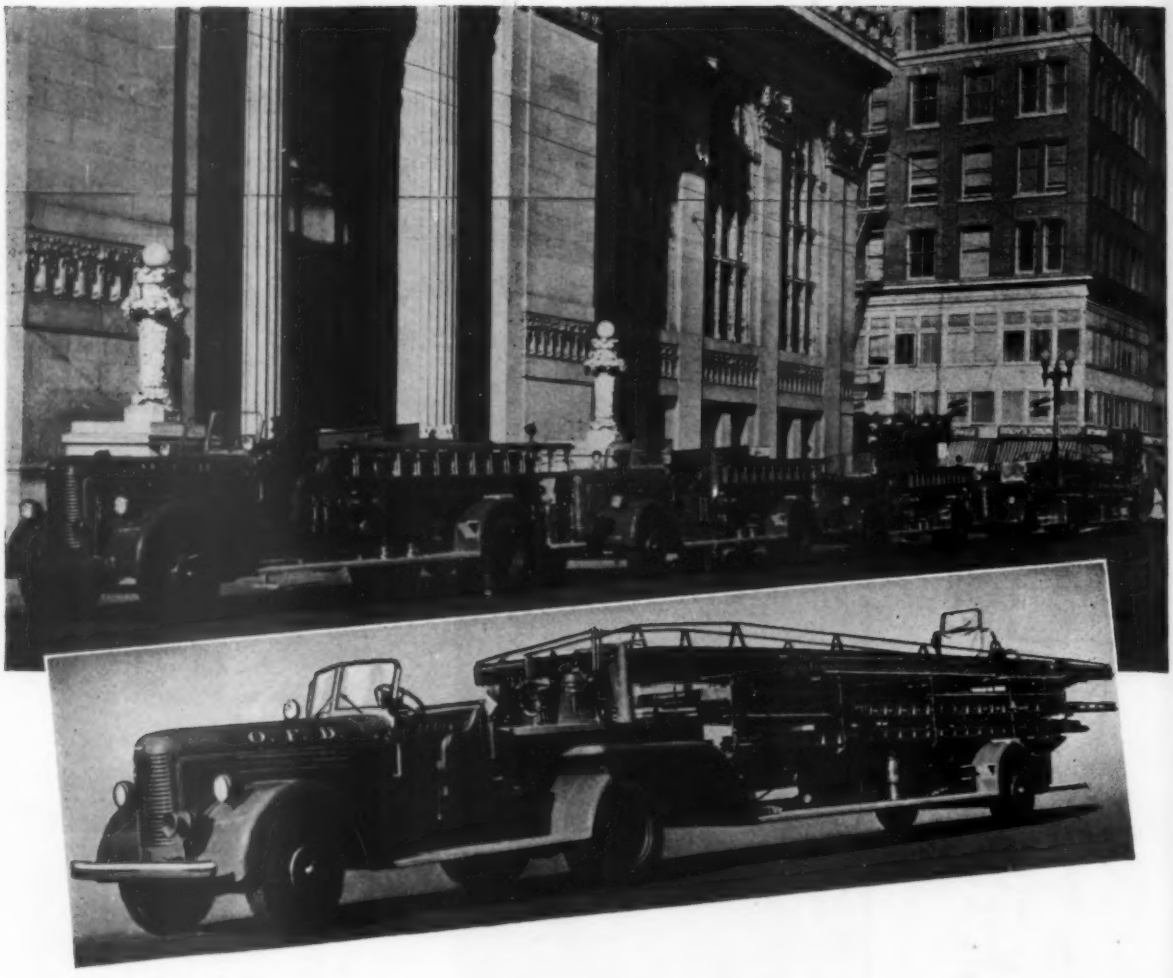

OAKLAND, CALIF.

This very important West Coast City recently received delivery of four more pieces of Pirsch apparatus which makes a total of seven Pirsch jobs now in service and two more on order.

●

Great horsepower output is useless when engine speeds are excessive and torque output low. Pirsch engines have high developed horsepower at usable engine speeds providing maximum performance with comfortable reserve.

●

Unit for unit Pirsch has more to offer; make a comparison before buying.

PETER PIRSCH & SONS CO. KENOSHA, WIS.

"BUILDERS OF AMERICA'S FIRST ALL-POWERED AERIAL LADDER TRUCK AND AMERICA'S FIRST 100' AERIAL LADDER"

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AKRON NOZZLE TIPS

● Illustrations here show a few of the many Nozzle Tips regularly supplied as stock items in the Akron Brass line. All Akron Fire Department Nozzle Tips assure a smooth, solid stream. They are ruggedly constructed, properly tapered and broached to exact discharge size.

Threaded Nozzle Tip, Style 416, provides quick connections to ¾", 1", 1¼" and 1½" hoselines. A non-removable ring attached to the discharge end is turned down when small hose line is connected and turned up to protect threads when not in use.

AKRON BRASS MFG. COMPANY, INC.
WOOSTER, OHIO

AKRON BRASS
FIRE FIGHTING EQUIPMENT

NO MATTER what the call, a small blaze or a great fire, be sure your hose will not fail. Republic hose is engineered for the necessary qualities—strength to withstand pressures, flexibility, long aging properties—and cotton jacketed hose can be further protected from mildew rot and vermin by Republic's exclusive Provar Process. Your local Republic Distributor can explain why Republic products are "better than before."

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REPUBLIC RUBBER

DIVISION

LEE RUBBER & TIRE CORPORATION

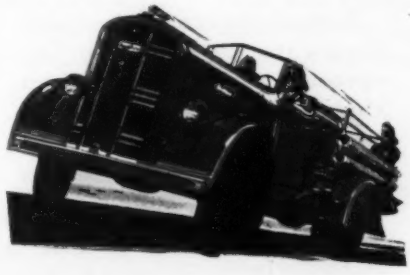
YOUNGSTOWN 1, OHIO

REPUBLIC INDUSTRIAL PRODUCTS
YOUNGSTOWN, O.

LEE DELUXE TIRES AND TUBES
CONSHOHOCKEN, PA.

ARE YOU READY FOR A BIG ONE?

Because most conflagrations are small at the start, speed in getting to the scene and into action ranks first in importance. Ward LaFrance pumpers are first in ability to do just that . . . But it's the *big* fire that costs big money, and when one breaks out, *stamina* is what counts . . . A recent fire in an eastern city cost $275,000, due in good part to the fact that three pumpers broke down. Ward LaFrance pumpers "get there fast" and *stay on the job* . . . WARD LA FRANCE has meant absolute dependability to fire fighters for twenty-five years. Today Ward LaFrance pumpers are the choice of our largest American cities, as well as small towns. Why not write our Sales Department today, outlining the needs of your community?



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TRUCK DIVISION

GREAT AMERICAN INDUSTRIES, INC.

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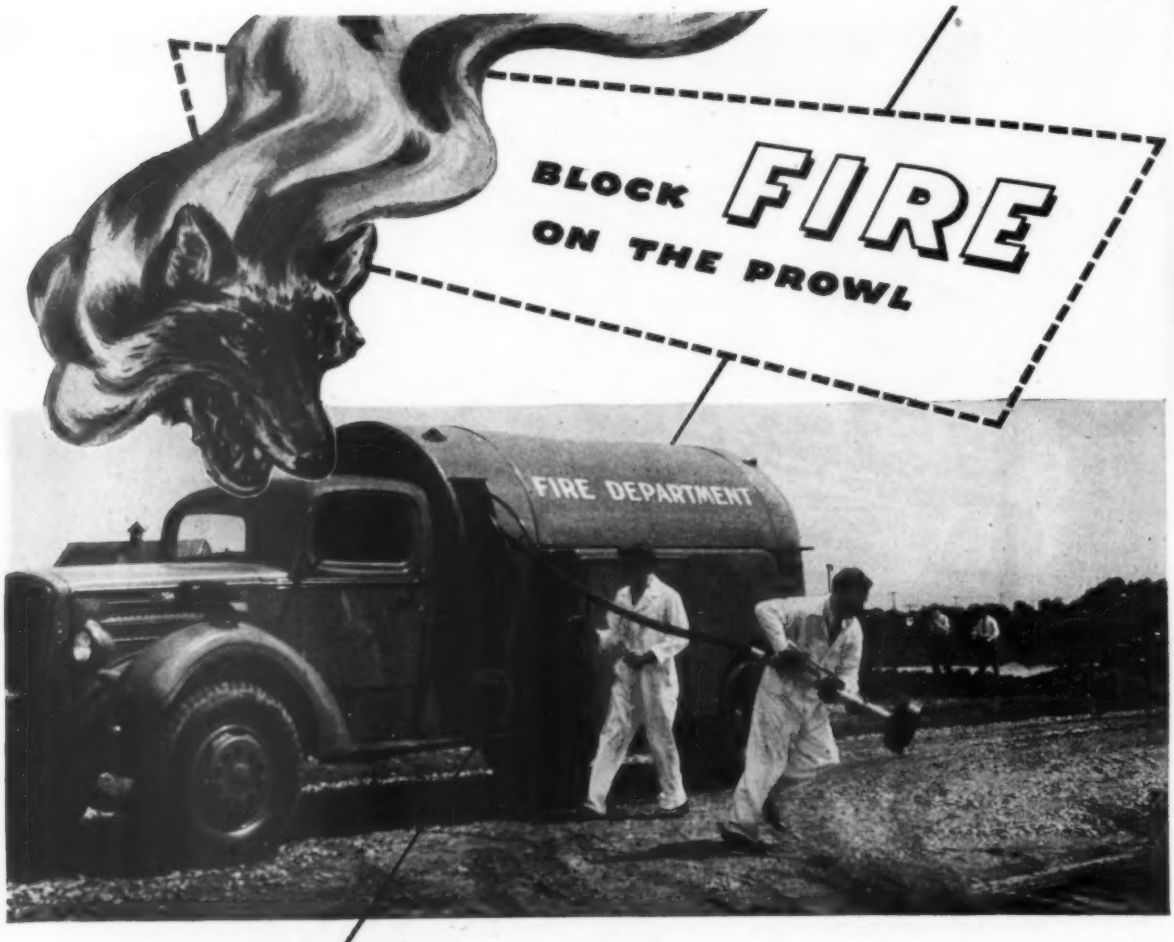

WITH 3 TONS OF CARDOX CO_2 ON WHEELS

In large industrial properties fire may strike *anywhere* . . . at any time. In many places hazards are so numerous and so widely scattered that the cost of guarding them all with fixed fire extinguishing systems is prohibitive.

Cardox Fire Trucks for Industry get to any hazard on the property quickly, to block fire on the prowl. They go into action fast; stop fire with a tremendous mass discharge of cold inert carbon dioxide . . . one of the fastest fire extinguishing mediums known for many types of fire.

This mass discharge of Cardox CO_2 is applied at high rate of flow. It envelops and extinguishes even relatively large fires quickly and completely.

Extinguishing coverage heretofore beyond the scope of mobile CO_2 equipment is provided because each Cardox Fire Truck carries *tons* of liquid Cardox CO_2 to the fire at motor truck speed.

Furthermore, as controlled and applied in Cardox Fire Trucks, the recognized fire extinguishing properties of carbon dioxide are given enhanced performance characteristics. Greater cooling effect is realized. More effective projection of the extinguishing discharge is made possible. Uniform extinguishing performance can be depended upon winter or summer . . . indoors or out.

Write on company letterhead for Bulletin 1945 describing the efficiency and flexibility of Cardox Fire Trucks loaded for wide range action with 3 tons of non-damaging, non-contaminating Cardox CO_2.

• • •

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BELL BUILDING • CHICAGO 1, ILLINOIS
District Offices In New York • Boston • Washington
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CARDOX
CO_2 FIRE EXTINGUISHING SYSTEMS

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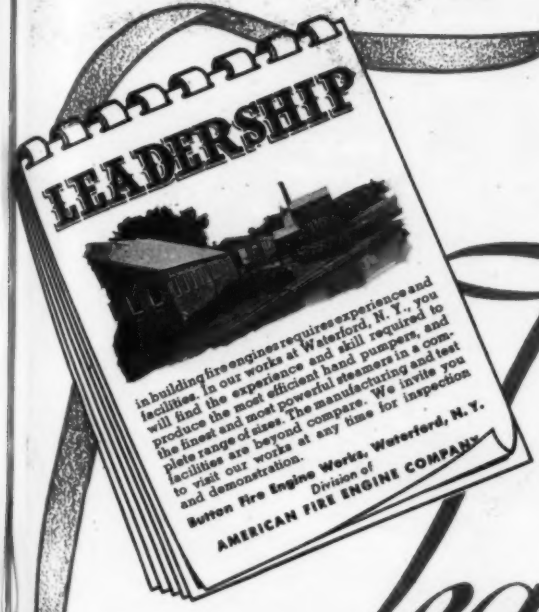
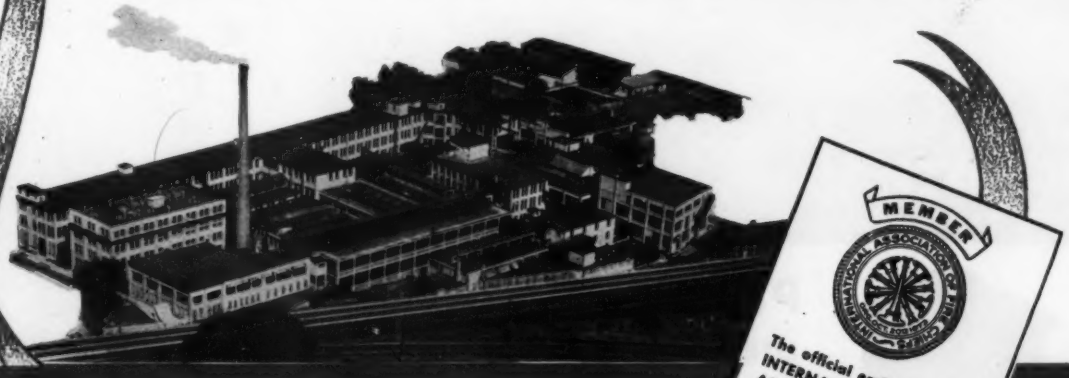

LEADERSHIP
in building fire engines requires experience and facilities. In our works at Waterford, N. Y., you will find the experience and skill required to produce the most efficient hand pumpers, and the finest and most powerful steamers in a complete range of sizes. The manufacturing and test facilities are beyond compare. We invite you to visit our works at any time for inspection and demonstration.
Button Fire Engine Works, Waterford, N. Y.
Division of
AMERICAN FIRE ENGINE COMPANY

AMERICAN LA FRANCE FOAMITE

Leadership

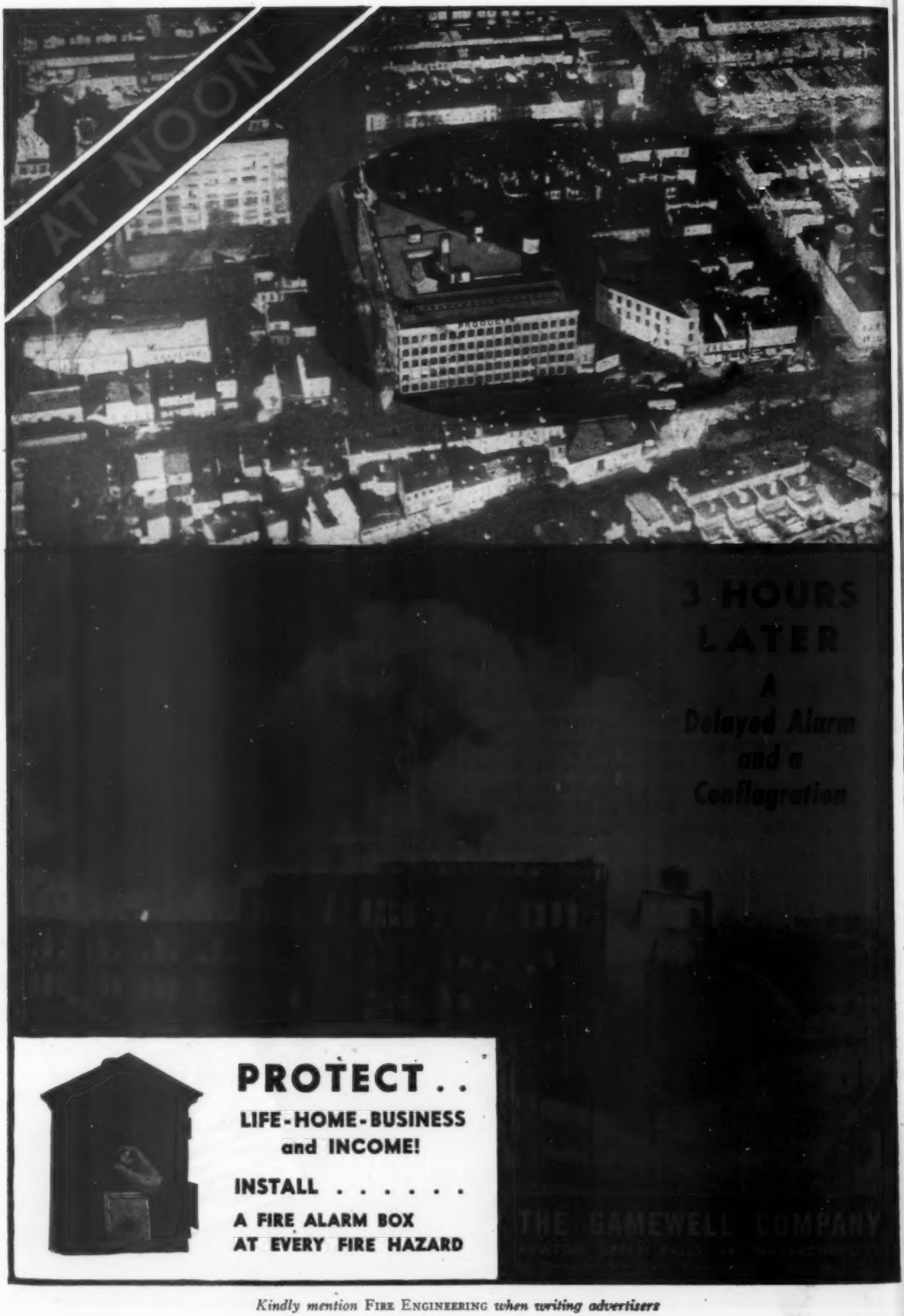
In an industry for over a century requires more than the ability to just build a fire engine. Leadership requires a competent organization with each individual devoting every effort to perfect the product that it may better serve the purchaser. Leadership carries the responsibility for planning and engineering for today's needs of the fire service, also anticipating future requirements. Such an organization is American-LaFrance.

Our factory covers 16 acres with over 375,000 square feet of manufacturing floor space. Hundreds of modern machines with modern methods of processing are devoted exclusively to producing quality fire engines. Over 1200 skilled craftsmen contribute their knowledge and experience to produce the World's Finest Fire Engines. All these facilities assure you of dependable protection when you buy American-LaFrance.



MEMBER
The official emblem of the INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. Are YOU wearing this emblem of membership in YOUR association?

AMERICAN-LAFRANCE-FOAMITE CORPORATION
ELMIRA, NEW YORK, U. S. A.
LAFRANCE FIRE ENGINE AND FOAMITE LIMITED
TORONTO, 9, ONTARIO, CANADA


AT NOON
3 HOURS LATER
A Delayed Alarm and a Conflagration
PROTECT . .
LIFE-HOME-BUSINESS and INCOME!
INSTALL . . . . . .
A FIRE ALARM BOX AT EVERY FIRE HAZARD
THE GAMEWELL COMPANY

FIRE ENGINEERING

APRIL, 1945 VOL. 98. NO. 4

With the Editor

Pump Cans—and Pump Can'ts Some of the 2,500,000 pump can extinguishers distributed by the Office of Civilian Defense to local civilian protection forces are being reallocated to schools, places of public assembly and the like, now that civilian emergency forces are being disbanded as the end of enemy threat appears to make them unnecessary.

Assuming that these extinguishers are in good order for fire fighting—which may be wishful thinking—such efforts to protect places heretofore lacking in first aid fire fighting equipment, is commendable. The fly in the ointment, however, is the question of operation. In short, when the emergency arises, who is going to use them, and how will they be used?

In the schools, for example, the majority of adults are women. The OCD pump-tank type extinguisher, loaded, weighs a good 35 pounds—almost again as much as the regulation 2½-gallon extinguisher. To lift, handle and operate this type unit, is no child's play; as taught in early OCD fire fighting instructions, it calls for coordinated effort of at least two, and preferably three persons.

It can hardly be assumed that in these schools and other places there will be trained wardens, auxiliary firemen or others ready to leap into action with this equipment when the emergency comes. Nor can it be assumed that the majority of teachers and others, upon whom will fall the responsibility for the fire fighting operations, will have the knowledge to make the best possible use of the pump cans. And the problem is further complicated by the fact that in most instances, the OCD devices are being placed and installed by persons outside and apart from the fire service—in some cases without the knowledge of the local fire department, and with no thought of the conditions under which the extingushers may have to be used.

Yet should fire strike those places and first aid fire fighting fail, it will not be the civilian protection officials who have to bear the blame—the censure will fall upon the fire department and fire chief!

For this reason, if no other, it would be well for civilian protection and fire services to get together, locally, with the fullest support of the local government.

Indiana Sets Chiefs' Salaries The General Assembly of Indiana recently passed a bill establishing the salaries of fire chiefs and police chiefs in cities of different population groups in that state. The same scale of pay will apply to the both branches of municipal service.

Such a law should result in real benefit to the fire service of the state, for a better class of men will become interested in the position of chief. Furthermore, higher pay for the chief will ultimately result in a better scale for the lower ranks.

While state-established salaries are desirable in that they benefit many chiefs who are underpaid, at present they sometimes prevent justified raises being made.

Municipal officials are prone to consider such established salaries as the highest rather than the lowest for the positions.

Fred Sheppard

Automatic Sprinkler Systems—

Are You Getting the Most Out of Them?

A great majority of fire chiefs have an acute appreciation of the value of automatic sprinkler systems in controlling spreading fires, as well as in preventing small fires from becoming large ones. They utilize such systems to the utmost as the first line of defense by keeping them supplied with water under proper pressure as the prime effort in controlling the fire.

Furthermore, fire chiefs in general have become "water damage conscious" during the past couple of decades and today are reducing loss from this source to a marked degree by carrying out salvage work and by better control of water used in fire fighting.

But there are still some fire departments, though outstanding in the performance of their difficult duties, which do not place justified dependence on sprinklers. In these instances sprinklers are frequently shut off when the fire department goes into action with fire streams. In such case the responsibility oftimes lies with subordinate officers whose judgment may not be sound.

It is the purpose of this article to review a group of typical cases where improper use of sprinkler facilities has resulted in unnecessary fire loss, and to point out the procedure which it is believed should have been followed.

For the data incorporated in this article, the Editor is indebted to Mr. O. W. Stewart, Manager, Inspection Department, Associated Factory Mutual Fire Insurance Companies, Boston, Mass.

THE major advantage of the automatic sprinkler is that it starts operating when the fire starts. In addition, it delivers the water directly onto the fire and covers adjacent combustible materials.

No matter how intense the heat or how dense the smoke, the water is delivered right where it is needed.

The water discharged by automatic sprinklers is used to good advantage, and little is wasted. Only those heads open which are needed.

Where sprinklers are shut off during a fire and only fire streams employed, less efficient work may be done and much greater water damage created. Fig. 1 illustrates the comparative effectiveness of sprinklers and fire streams in covering a fire within a structure. Inefficiently used water means increased water loss as well as greater fire loss.

In the following paragraphs are reviewed briefly a number of typical fires in which sprinkler systems were improperly used, as well as fires in which errors in judgment contributed to an increased loss.

No criticism is intended of those fire departments involved, for actions taken at fires are ordered by officers of varying rank, and among a large number of such in any department there is almost certain to be some whose judgment would be at variance with other qualified men.

The apparent errors involved in these fires included one or more of the following:

1. Lack of appreciation of the functions and effectiveness of automatic sprinkler protection.
2. Questionable use of available water supplies, particularly where sprinklers are involved.
3. Unnecessary damage by water.
4. Non-familiarity with the best methods of handling special-hazard fires.

I. Sprinklers Shut Off Too Early

Sprinklers shut off "to prevent water damage"

Very shortly after sprinklers that were controlling a third-story storage room fire were shut off by order of the fire department "to prevent unnecessary water damage," fire was seen to spread rapidly and in about ten minutes two indicator post valves were ordered reopened. An inside valve was not reopened, however, and fire and water damage was greatly increased. Loss $35,000.

Note: Sprinklers should be kept in operation as long as they are aiding in checking spread of fire.

Roof charred after sprinklers were shut off

About 20 minutes after the start of a fourth story fire in a department store warehouse, sprinklers were shut off by order of the fire department, presumably to "prevent water damage." Sprinkler piping sagged due to the heat, the wooden roof was badly charred, and practically the entire building was wet down. Loss $45,624.

Note: Shutting off sprinklers too soon may result in excessive water loss, particularly where the fire is finished off with fire streams.

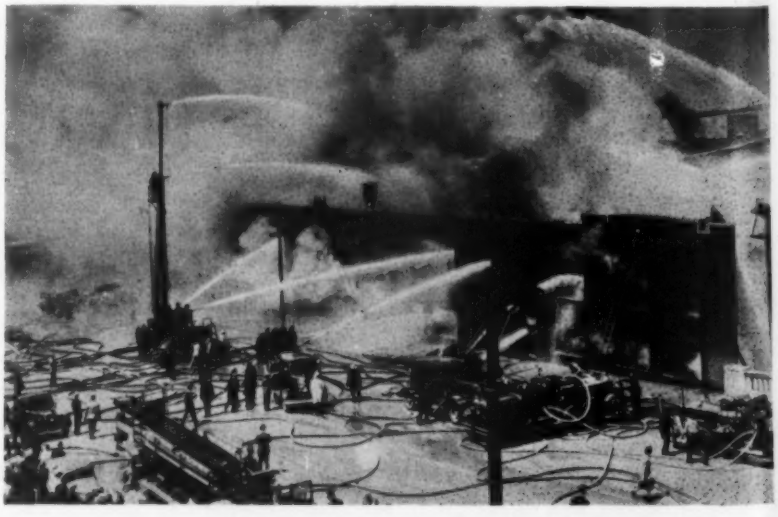
Sprinklers shut off and turned on intermittently

About 15 minutes after sprinklers had been shut off by order of the fire department while fighting a fire in high-piled cotton, fire blazed up again and sprinklers were turned on. This process was repeated several times. Roof planks near sprinklers were deeply charred and the extent of fire and water damage increased. Loss $11,420.

Note: Sprinklers should not be shut off until it is certain that their work is done.

Inside sprinkler valve shut and could not be reopened when fire spread

While sprinklers were functioning



Inside Sprinkler Valve Shut and Could Not Be Reopened when Fire Spread

A loss of $100,000 was experienced when fire destroyed building and contents of this mid-west plant. Sprinklers were shut off when fire streams were put in operation; when fire began to gain headway, sprinklers could not be turned on again because the control valve had become inaccessible.

Drop in Sprinkler Pressure Permitted Fire to Spread

Sprinklers in exposed mill, when this flour mill was burning, kept fire out of structure until water pressure dropped. Sprinklers became ineffective and fire entered the building. Loss, $400,000.

normally and confining fire to one of several piles of waste paper, the public fire department believed they could handle the fire with hose streams and ordered sprinklers shut off at one inside and one outside valve. When the fire started to spread, the closed inside valve was inaccessible and, although the outside valve was opened restoring water to part of the sprinklers, the building and contents were practically destroyed and three firemen were trapped and lost their lives. Loss $100,000.

Note: Don't discount the help sprinklers can give; use them even if fire streams are put into operation.

Sprinklers shut off—turned on too late—plant destroyed

Upon arrival at a fire in a gas-fired kettle of wax under an unprotected metal hood, the fire department ordered the sprinklers shut off and attempted to put out the fire with chemicals. Being driven from the building, chemicals were abandoned and hose streams used and sprinklers again turned on after being shut off for 10 or 15 minutes. By this time so many heads had opened and so many hose streams were in use that the public water supply, through a single six inch city main, was overtaxed and sprinklers became ineffective. Fire was eventually extinguished with the use of four hose streams after two thirds of the plant had been destroyed. Loss $216,525.

Note: Here early shutting off of sprinklers made the system inoperative. Again, keep them in operation until their work is done.

Fire spread to another area

After a fire in the sixth story of an incombustible tenanted building had been put out by the public department with the aid of eight sprinklers, the sprinklers were shut off without investigating other areas. Fire had spread by way of an overheated duct to the seventh story and, although sprinklers were turned on promptly and protected the building, water from 54 heads which had opened in the seventh story caused serious damage. Loss $48,000.

Note: Rekindles, resulting from overlooked channels of fire travel, can best be prevented by thorough overhauling after fires.

Fire spread through a small floor opening

Finding that 18 sprinklers were controlling a large fire involving pyroxylin in the fourth story of a seven story and basement tenanted building, the public fire department used hand pumps to complete extinguishment, sprinklers were shut off, several fire companies were sent home, and the all-out sounded, all within 10 minutes of the alarm. Fire had passed unnoticed through a one-inch floor opening to the fifth story, however, and with sprinklers shut off, spread rapidly throughout the area and through openings to the sixth story. Water was turned on to the sprinklers, but so many heads had opened that they were ineffective. Thirty-one pumpers and other apparatus responded to several alarms and the fire was extinguished in about three hours after the upper stories had been practically destroyed. Estimated loss $200,000.

Note: Another example of rekindle due to incomplete post-fire inspection.

Sprinklers shut off too soon

While fire in shelving in a book bindery was being controlled by 15 or 20 sprinklers, the fire department arrived, smoke was dense and no fire visible, and they ordered the sprinklers shut off. Fire immediately blazed up and although water was turned on again promptly, a total of 164 sprinklers opened and the entire six story building was thoroughly wet down. Three large hose streams were also used. Loss $60,000.

Note: Make sure sprinklers are no longer needed before they are turned off.

II. Water Supplies Not Used to Best Advantage

Automatic sprinklers will generally use available water supplies to the best advantage regardless of smoke, heat, and combustion gases which frequently make effective use of hose streams impossible. Adequate and continuous pressure at sprinkler heads should take precedence over hose streams from common water supplies as long as sprinklers are holding the fire.

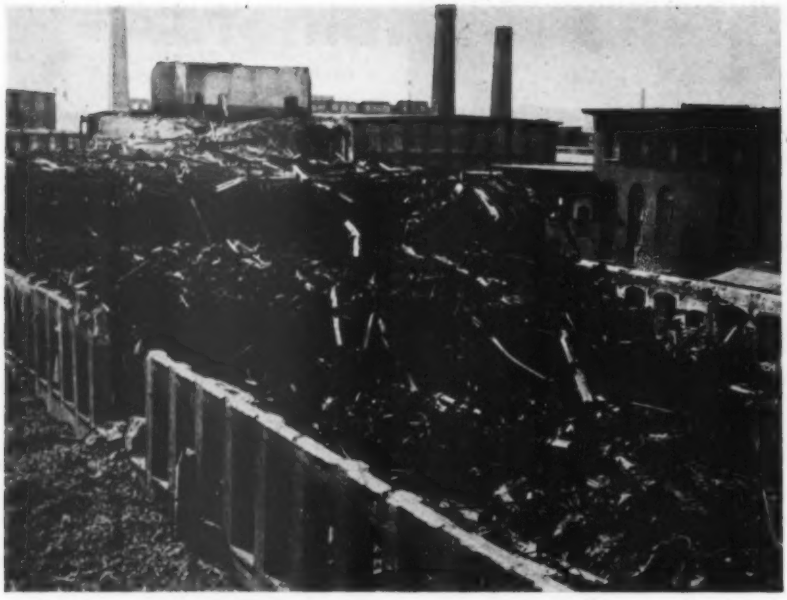
Pumper took suction from a yard hydrant

During a fire which gained headway in a building in which sprinklers were improperly shut off, one fire department pumper taking suction from a yard hydrant helped to reduce water pressure on the top sprinklers in an exposed multi-story building sufficiently to permit fire to enter through a monitor and ventilators and burn down through the building, which was severely damaged. Other pumpers used an available penstock and canal for suction supplies. Loss $750,000.

Note: Don't permit pumpers to deplete water supply of sprinklers if the latter are holding the fire.

Fire Department Sprinkler Connection Not Used Soon Enough

It was about 30 minutes after fire department arrived before connection was made to sprinkler system. In the meantime the supply to sprinklers became ineffective because of poor pressure.



Shut Off Sprinklers Allow Fire to Involve Cotton Mill

While sprinklers were temporarily shut off, fire involved this four-story cotton mill. Deficient water supply handicapped fire department. Loss, $971,627.

Water supply to sprinklers depleted

During a fire which involved high piled baled jute and other combustible materials, pressure at sprinklers became inadequate and the plank roof of the two story building was seriously burned. One fire department pumper took suction from a yard hydrant; also, an available fire department connection was not used. The building was saved from complete destruction by hose streams supplied by pumpers taking suction from a river. Loss $14,500.

Note: Do not use yard hydrants if water supply to sprinkler system will be reduced thereby.

Fire department and fire boat connections were not used

Fire gained rapid headway in a six story malt handling building because sprinklers were improperly shut off. The sprinkler valve was opened but, because of many hose streams taken from the available eight inch public main (fire pump not started) and because the fire department failed to make use of a fire department pumper connection and a fire boat connection to the sprinkler system, pressure was insufficient to reach the upper stories and sprinklers were ineffective. Loss $36,000.

Note: Keep sprinklers supplied with water at proper pressures; use fire department pumpers for this purpose where necessary.

Pond not used for pumper suction supply

A fire involving flammable liquids was being controlled by automatic sprinklers supplied by gravity tanks and two fire pumps until fire department pumpers from several communities took suction from yard hydrants. The yard pressure then dropped to 10 to 15 pounds, which was inadequate to supply the large number of sprinklers that had opened, and it was at this point that the fire took hold and got out of control. Eighteen hose streams were used but two buildings were destroyed. There was no public water in the immediate vicinity, but a large pond nearby could have been used by fire department pumpers. Loss $400,000.

Note: If shortage of water from system is likely, utilize supplementary sources too.

Sprinklered building destroyed

While seven hose streams taken from public mains—also the only supply to sprinklers in a one story building—were being used ineffectively on fire in an unsprinklered space below the building, suction pressure for pumpers was reduced practically to zero, indicating that no water remained for sprinklers. Fire then spread and destroyed two buildings and damaged a third before it was extinguished. Loss $81,130.

Note: Check inlet pressures on pumpers, and do not let them rob the sprinkler system.

Fire department connection used too late

When the public fire department arrived shortly after the start of a fire in an enamel dip tank under an unsprinklered hood, many sprinklers, fed by connections from high and low pressure public mains, were without sufficient water. Instead of immediately using an available fire department connection to the sprinklers, firemen attempted to fight the fire with hose streams but were soon driven from the building. The pumper connection was used 30 minutes later, but it was then too late and a group of four buildings was destroyed. Failure to notify public water authorities resulted in inadequate suction pressures for pumpers connected to low service hydrants. Estimate $610,000.

Note: Where it is evident that sprinklers are not receiving sufficient water, use pumpers to boost pressure and supply.

Sprinklers had nearly extinguished the fire

Four sprinklers supplied by a six inch public main had reduced a dry kiln fire to the smoldering stage when the public fire department arrived and immediately connected five hose streams to street hydrants. Pressure at both sprinklers and hose streams quickly became ineffective. The fire broke out again and quickly spread throughout the two story wooden furniture plant, which was completely destroyed. Estimate $50,000.

Note: A sprinkler system under good pressure is better than sprinklers and hose streams under poor pressure.

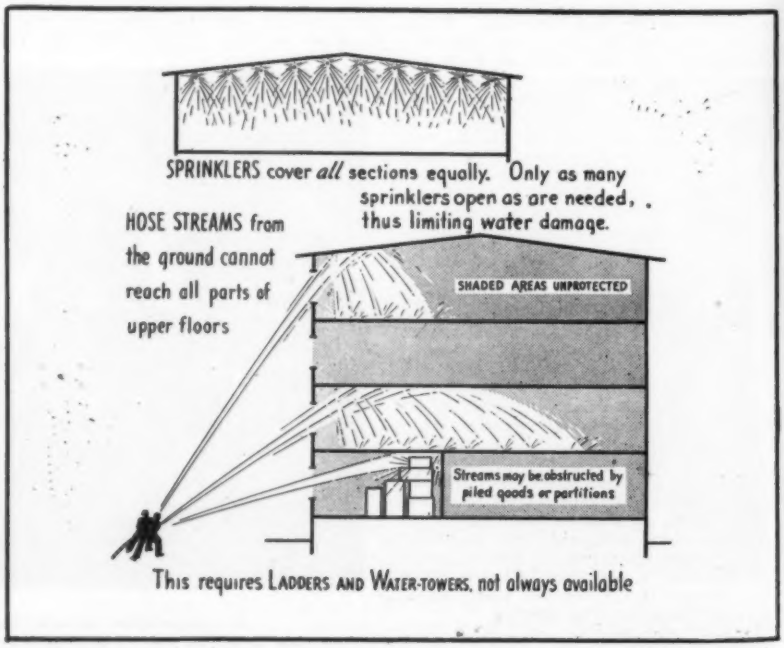

SPRINKLERS cover *all* sections equally. Only as many sprinklers open as are needed, thus limiting water damage.
HOSE STREAMS from the ground cannot reach all parts of upper floors
SHADED AREAS UNPROTECTED
Streams may be obstructed by piled goods or partitions
This requires LADDERS AND WATER-TOWERS, not always available

Fig. 1. Sketch Showing Limitation of Coverage of Fire Streams Directed from Street.

Sprinklers in upper stories were without water

Fire in a four-story and basement cotton mill gained rapid headway while sprinklers, supplied by public mains and fire pumps, were temporarily shut off. The fire pumps were not started promptly and five pumpers taking suction from street hydrants pulled the pressure down so that no water could reach the third or fourth stories and very little if any was available in the second story. Only eleven out of a possible 28 hose streams from all available water supplies were used. The Main Mill and an adjacent Picker House were destroyed. Loss $971,627.

Note: Fire department pumpers should supply sprinklers when plant fire pumps are not in operation.

Sprinklers function properly until city pumper arrives

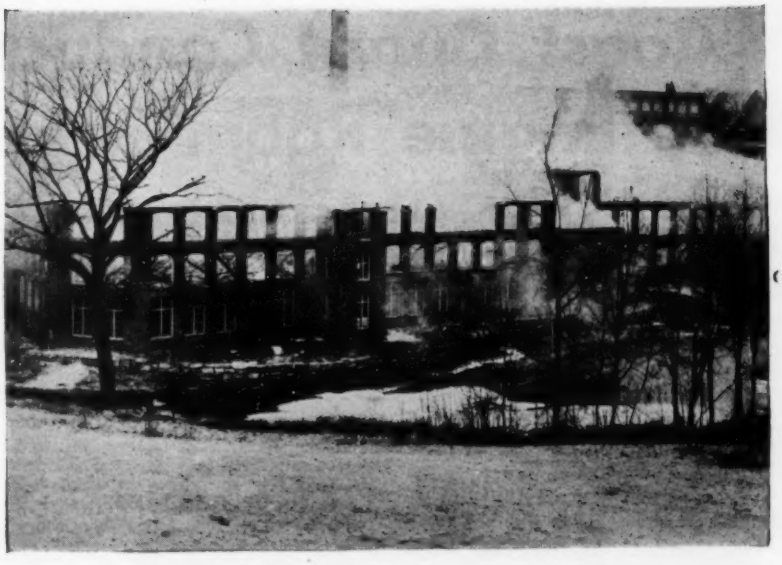
When fire started in a small unsprinklered addition, sprinklers in the adjoining main building, supplied by two gravity tanks and a fire pump, kept the fire out of this building until a city pumper took suction from a yard hydrant, at which time the pressure on streams already in use from yard hydrants and at sprinklers became ineffective and fire destroyed the addition and also a large portion of the sprinklered main building. Loss $40,972.

Note: Again too heavy a demand on limited water supply. Sprinklers should have preference.

The mill burned from the top down

Sprinklers in a five-story feed mill were supplied by public mains and a fire department connection. When fire started in an adjacent unsprinklered warehouse, all pumpers in the city responded to several alarms and took suction from the public mains and a nearby canal. Sprinklers in the exposed mill kept the fire out until pressure was reduced and the fire then entered the upper stories and burned downwards. The fire department connection was not used and the plant was practically destroyed. Loss $400,000.

Note: Public water mains have limited capacity. Overdraft will make sprinklers ineffective.



Depleted Sprinkler Water Supply Permits Fire Spread

When a pumper took suction from a yard hydrant at this mill fire, top floor sprinklers could not operate efficiently on the reduced pressure. Fire entered multi-storied building and caused severe damage. Loss, $750,000.

The roof collapsed in fifteen minutes

Fire gained rapid headway in a large sprinklered foundry because two of the nine dry-pipe systems, supplied by public mains and a gravity tank, were apparently improperly shut off. Eight fire department pumpers used twelve hose streams, two pumpers connecting to yard hydrants. The fire department connection was not used, the gravity tank was drained, pressure on sprinklers became ineffective, and about one-half of the plant was destroyed. Loss $200,000.

Note: One of the pumpers would have proved valuable in supplying sprinklers. Improperly shut valves neutralize sprinkler protection.

Five pumpers connected to yard hydrants

Thirty minutes after five pumpers had started to draw water from yard hydrants supplied by a gravity tank and a fire pump, while fighting a fire which originated in an anti-rust spraying installation, the gravity tank was emptied, the fire pump overtaxed, and pumpers lost their suction and water stopped flowing from many sprinklers which had opened. The fire, which was practically out, then started to spread to other areas and a large part of the plant was seriously damaged. The pumpers finally shifted to an available river suction supply and used 10 to 12 hose streams to extinguish the blaze. Loss $335, 817.

Note: Early use of auxiliary supplies imperative where installed supply is limited in capacity.

III. Unnecessary Damage

Unwarranted use of large hose streams in areas where sprinklers are holding a fire frequently results in excessive water damage. Sprinklers which are permitted to run too long have the same effect. Careless handling of stock may increase damage appreciably.

Water was permitted to run

Following an explosion caused by escaping gas, which ruptured sprinkler and other piping, the public fire department extinguished two small fires and then permitted water to run until it was

(Continued on page 250)

Heavy Water Loss when Sprinklers Are Shut Off and Again Opened

Because of the dense smoke which involved the paper stock of this printing plant, firemen could not determine condition of fire. Sprinklers were turned off, and fire started to gain headway. Sprinklers were thereupon turned on again but not before 164 heads had opened. Water loss was very heavy.

Coast Guard Conducts Tests on Engine Room Fires—Part III

Carbon Dioxide and Fog Employed in Instructive Series of Demonstrations; Some Observations

THIS is the third installment of an article describing fire extinguishing tests made on the Liberty Ship, "Gaspar de Portola" at Fort McHenry, Md., by the Coast Guard under direction of Commander Lloyd Layman.

The first two installments, which appeared in the February and March issues, reviewed the scope and purpose of the tests, and outlined the procedure followed; they also included reports of the first six tests. The article resumes the review of individual tests.

Test No. 7

I. TIME—

On 29 November, 1944.

II. PURPOSES—

1. To investigate further the techniques and methods developed during previous test fires for extinguishing a major fire involving fuel oil under the floor plates by the control of air flows and the use of low velocity water fog applied from the upper level at one point only.

III. CONDITIONS BEFORE TEST—

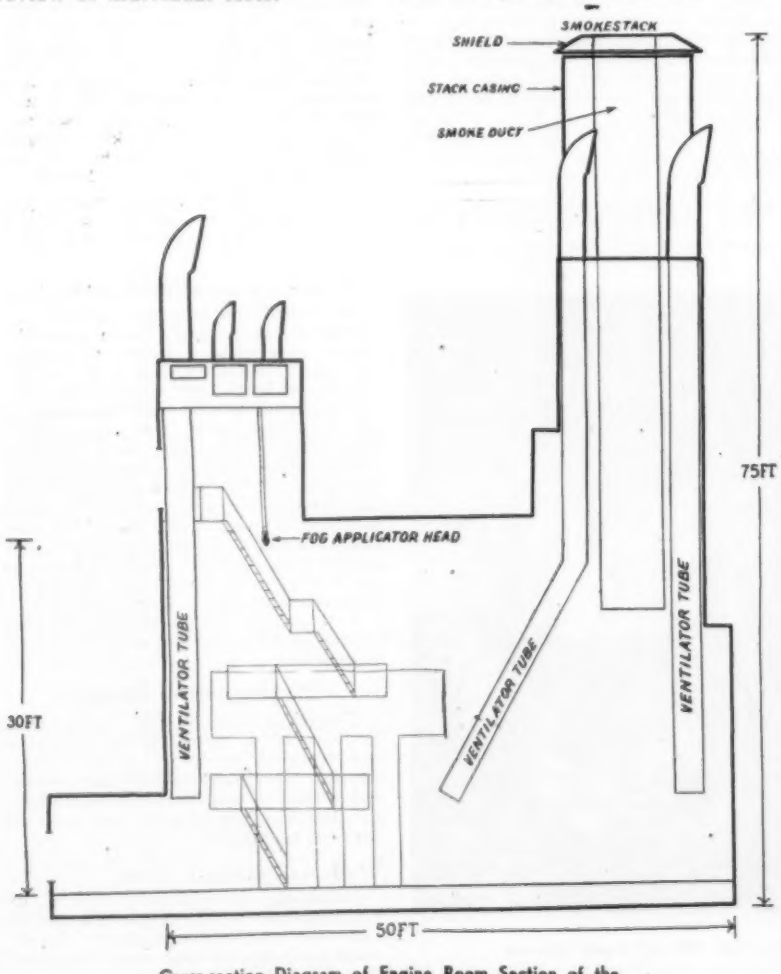
1. The machinery space remained the same as reported after Test Fire No. 6 conducted on 13 November, 1944 with the following exceptions:

a. Five hundred gallons of Navy Special fuel oil were added to the 4,500 gallons of fuel oil remaining after Test Fire No. 6 (at the start of Test Fire No. 6 the fuel oil consisted of a mixture of 3,800 gallons of bunker "A" fuel oil and 1,200 gallons of Navy Special fuel oil). Due to the starboard list, approximately ten thousand gallons of water were allowed to remain in the bilge in order to obtain maximum oil coverage without raising the oil above the floor plates. This brought the oil level to within two inches of the floor plates on the starboard side. Oil coverage of the bilge was obtained with the exception of about one hundred and fifty square feet at the forward port corner. This volume of oil provided an oil depth of approximately five inches.

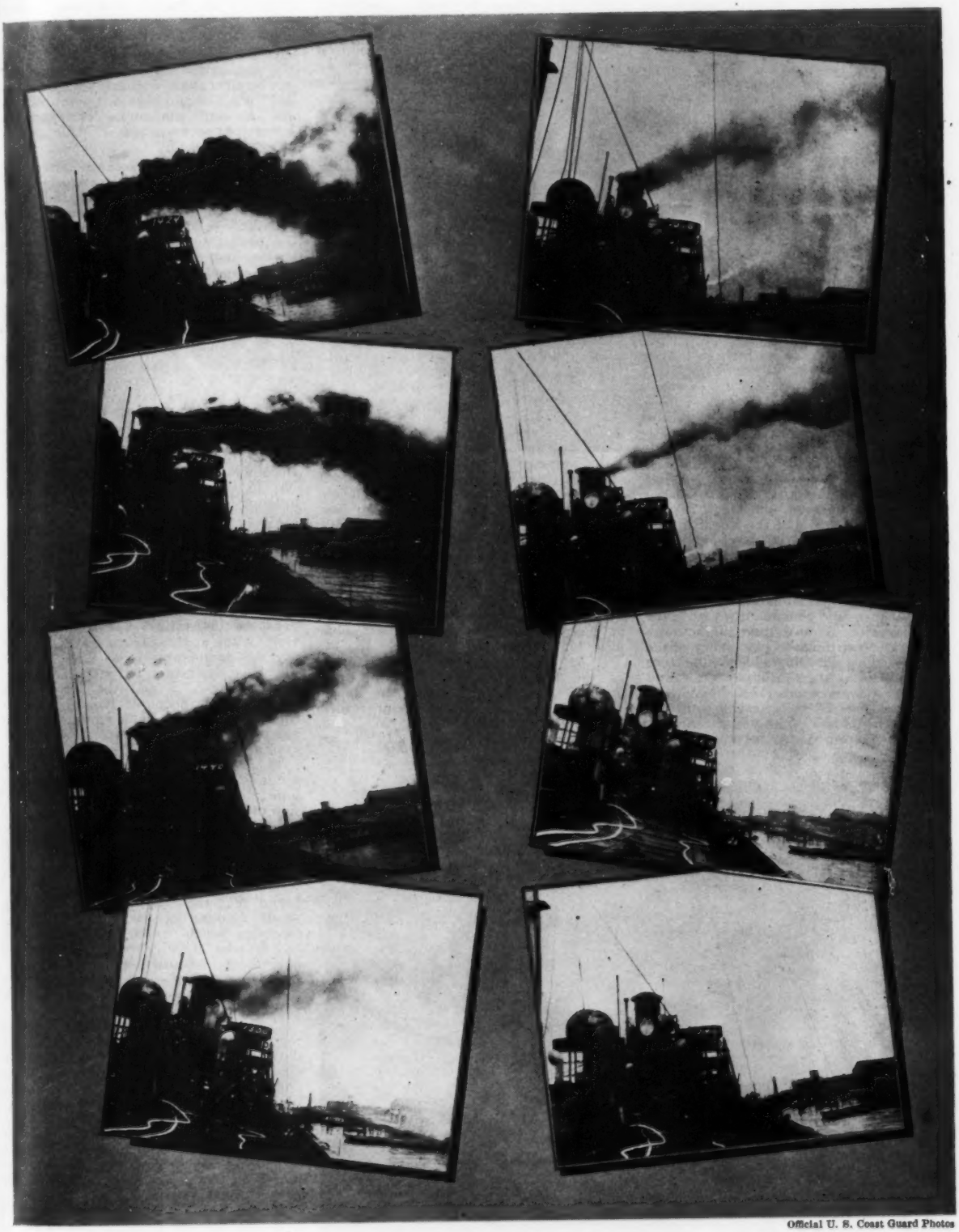
b. An asbestos cloth curtain, with small brass hooks along the upper edge, was provided for attachment to the grilled opening between the Engineer's Storeroom and the second deck port side passage. This curtain was placed over the grill when the covering of air intake openings was started. The curtain is underwriter's grade cloth, 95% asbestos, 40 by 46 inches in size. During Test Fire No. 6, this grilled opening was closed with an asbestos board previous to start of test.

2. Two 2½ inch hose lines were laid from a 500 gallon skid pump unit, located on the pier, to the main deck to supply the 1½ inch working lines. One 1¼ inch line equipped with a 2½ inch low velocity fog head was laid to the port side of the skylight house on the boat deck. A similar line equipped with a 1½ inch low velocity fog head was laid to the starboard side of the skylight house on the boat deck. Two 1½ inch hose lines equipped with all-purpose nozzles were laid to the forward escape hatch of the shaft tunnel. Additional 1½ inch lines equipped with all-purpose nozzles were located at various strategic points on the bridge and top decks for use in cooling the exterior of the ventilators, if necessary, before covering. From another 500 gallon skid pump unit, located on the pier, a 2½ inch line was laid to a twin twenty-five gallon mechanical foam pressure proportioner also located on the pier. From the proportioner a 2½ inch line was laid to the main deck to supply two 1½ inch hose lines equipped with mechanical foam nozzles.

3. An electronic pyrometer was used to obtain the degree of heat at levels from three feet above the floor plates up to one foot down from the top of the stack and at all overheads within the



Cross-section Diagram of Engine Room Section of the Liberty Ship, "Gaspar de Portola".



Official U. S. Coast Guard Photos

Series of Photographs Showing Smoke Discharge through Smokestack during Test No. 7. Figures on Superstructure Just Beneath Smoke in Each Illustration Indicate the Time the Photograph Was Taken.

space. Reference is made under Test Record to the termocouple terminals at the locations given below:

No. 4—Projecting downward one foot into machinery space from galley deck, directly over engine.

No. 5—Projecting downward one foot into machinery space from carbon dioxide compartment, port side second deck, four feet forward of storeroom and workshop bulkhead and six feet inboard from port shell plating.

No. 14—Six inches below ridge and five feet aft of forward bulkhead of the skylight house.

No. 15—Three feet above floor plates and ten feet forward of shaft tunnel entrance.

No. 16—Projecting ten feet into machinery space from mid-point of forward bulkhead, three feet above floor plates.

IV. Test Record—

1. At 1420, the oil in the machinery space was ignited at six different locations after priming with gasoline. Smoke banked down quickly from the overhead forcing the priming parties to withdraw from the machinery space by way of the shaft tunnel immediately following ignition of the oil.

2. From the topside, it was noted that almost immediately after ignition smoke started to come from the stack casing, the open skylights, and the forward port main ventilator. During the following twenty minutes the smoke coming from these openings was very black and in large volume.

3. At 1442, the smoke coming from the stack casing changed to very dark gray in color. At this time the average temperature within the machinery space was 447° F. The highest temperature was 653° F. at thermocouple No. 4 and the lowest temperature 175° F. at thermocouple No. 14.

4. At 1500, forty minutes after start of test, covering of air intake openings was started. The smoke coming from the stack casing at this time was very dark gray with some dark brown smoke present. The average temperature within the space was 649° F. The highest temperature was 925° F. at thermocouple No. 4 and the lowest temperature 460° F. at thermocouple No. 16. Note: A hatch tarpaulin was used to cover the entire skylight housing including the two small ventilators. Specially designed oval canvas covers were used to cover the six main ventilators. Water fog was used to cool some of the ventilators and the skylight housing.

5. At 1509, forty-nine minutes after start of test, the covering of all air intake openings was completed. The average temperature within the space was 567° F. The highest temperature was 700° F. at thermocouple No. 4 and the lowest temperature 175° F. at thermocouple No. 14. During the covering operation, the emitting smoke constantly diminished in volume and changed to light gray and light brown in color.

6. At 1512, fifty-two minutes after start of test, a 1½ inch hose line equipped with a 2½ inch low velocity fog head was inserted under the canvas hatch tarpaulin, used to cover the skylight house, into an open skylight on the port side. The hose line was lowered approximately 15 feet and low velocity fog applied at this point. A similar line equipped with a 1½ inch low velocity fog head was inserted into an open skylight on the starboard side and lowered approximately 15 feet down into machinery space. At this time the average temperature within the space was 551° F. The highest temperature was 682° F. at thermocouple No. 4 and the lowest was 145° F. at thermocouple No. 14.

7. At 1517, five minutes after start of the application of water fog, the average temperature within the space was 424° F. The highest temperature was 525° F. at thermocouple No. 5 and the lowest temperature was 210° F. at thermocouple No. 15. A very small amount of smoke with considerable steam apparent was emitting from the stack casing.

8. At 1522, ten minutes after start of the application of water fog, the average temperature within the space was 347° F. The highest temperature was 435° F. at thermocouple No. 5 and the lowest temperature was 157° F. at thermocouple No. 15.

9. At 1527, fifteen minutes after start of the application of water fog the average temperature within the space was 321° F. The highest temperature was 385° F. at thermocouple No. 5 and the lowest temperature was 140° F. at thermocouple No. 15. At this time a very small amount of steam was emitting from the stack casing.

10. At 1532, twenty minutes after start of application of water fog, the average temperature within the space was 269° F. The highest temperature was 345° F. at thermocouple No. 5 and the lowest was 123° F. at thermocouple No. 15.

11. At 1537, twenty-five minutes after start of application of water fog, the average temperature within the space was 242° F. The highest temperature was 312° F. at thermocouple No. 5 and the lowest was 112° F. at thermocouple No. 15. At this time an extremely small amount of steam was emitting from the stack casing.

12. At 1542, thirty minutes after start of application of water fog, the average temperature within the space was 221° F. The highest temperature was 285° F. at thermocouple No. 5 and the lowest was 103° F. at thermocouple No. 15.

13. At 1547, thirty-five minutes after start of the application of water fog, the average temperature was 204° F. The highest temperature was 263° F. at thermocouple No. 5 and the lowest was 95° F. at thermocouple No. 15. At this time an extremely small amount of light vapors were coming from the stack casing.

14. At 1551, one hour and thirty-one minutes after start of test and thirty-nine minutes after start of the application of water fog, entry to the machinery space was made by way of the door from the shaft tunnel. The fire fighting party was able to proceed in an upright position to any point at the floor level without physical discomfort. It was found that the only burning was in a small amount of class "A" material (wooden bench, wooden bulletin board, and wooden floor covering on electrical equipment platform). This fire was extinguished with a small amount of water from one 1½ inch line equipped with an all-purpose nozzle.

15. At 1556, the application of water fog at the skylights was stopped and during the following two minutes the covers were removed from the skylights and all main ventilators. An inspection party entered the machinery space by the main door and proceeded down the ladders to the floor plate level. The inspection party experienced no more discomfort than would have been experienced in the machinery space under normal operating conditions.

16. Heat indicating lacquer showed that the following temperatures were reached:

a. On the aft bulkhead of No. 3 hold, a temperature of at least 300° F. was reached at all locations and a temperature of 500° F. was reached at some locations. None of the spots

Official U. S. Coast Guard Photo

Covering Opening to Prevent Inflow of Air to Engine Room Fire

painted on the forward surface (15 inches from bulkhead) of a vertical "I" beam bulkhead stiffener reached 175° F.

b. In the No. 3 'tween deck section, spots painted on the deck one inch from the aft bulkhead and on the bulkhead one inch above the deck reached 175° F. at the mid-point and on the port side. Spots painted on the bulkhead five feet above the deck did not reach 175° F.

c. In the No. 4 'tween deck section, spots painted on the deck one inch from the forward bulkhead did not reach 175° F. on the port side and reached 250° F. at the mid-point and on the starboard side. Spots painted on the bulkhead at points one inch above the deck and five feet above the deck reached 300° F. at some locations.

17. The volume of water used during the test was estimated at approximately, 7,392 gallons.

18. Twelve hundred and ten temperature readings were recorded during this test.

V. Conditions After Test—

1. The machinery space was in practically the same condition as reported after Test Fire No. 6 conducted on 13 November, 1944 with the following changes:

a. All surfaces coated with carbon except in lubricating oil tank area and where washed clean by water fog.

b. Additional warping of floor plates.

c. Wooden bench top and bulletin board in lubricating oil tank area partially consumed by fire.

2. It was estimated by measurement before and after test, that not more than 750 gallons of oil were consumed during the test.

VI. Tentative Conclusions—

1. A major fire involving fuel oil under the floor plates can be extinguished by the control of air flows and the use of low velocity water fog applied from the upper level at one point only.

2. An asbestos curtain, underwriter's grade cloth, fitted with small brass hooks along the upper edge can be used to close the opening between the Engineer's Storeroom and the second deck port side passage.

Test No. 8

I. Time—December 1944.

II. Purposes—

1. The primary purpose: to investigate further the techniques and methods developed during previous test fires for extinguishing a major fire involving fuel oil under the floor plates by the control of air flows and the use of low velocity water fog applied from the upper level at one point only.

2. Secondary purposes were as follows:

a. To determine if a uniform cooling of the oil is effected durng the process of extinguishment.

b. To determine if sufficient volume of fuel oil vapors are present within the space, upon completion of extinguishment, to constitute a hazard.

III. Conditions Before Test—

1. The machinery space remained the same as reported after Test Fire No. 7 conducted 29 November, 1944, with the following exceptions:

a. One thousand gallons of Navy Special fuel oil were added to the 4,500 gallons of fuel oil remaining after Test Fire No. 7. Due to the starboard list, approximately ten thousand gallons of water were allowed to remain in the bilge in order to obtain maximum oil coverage without raising the oil above the floor plates. This brought the oil level to within two inches of the floor plates on the starboard side. Oil coverage was obtained with the exception of one hundred and fifty square feet at the forward port corner. This volume of oil provided an oil depth of approximately five and one quarter inches.

2. Two 2½ inch hose lines were laid from a 500 gallon skid pump unit located on the pier, to the main deck to supply the 1½ inch working lines. One 1½ inch line equipped with a 1½ inch straight applicator and a 2½ inch low velocity fog head was laid to the port side of the skylight house on the boat deck. Additional 1½ inch lines equipped with all-purpose nozzles were located at various strategic points on the boat and top decks for use in cooling the exterior of the ventilators, if necessary, before covering. From another 500 gallon skid pump unit, located on the pier, a 2½ inch line was laid to a twin twenty-five gallon mechanical foam pressure proportioner also located on the pier. From the proportioner a 2½ inch line was laid to the main deck to supply two 1½ inch hose lines equipped with mechanical foam nozzles.

3. An electronic pyrometer was used to determine the degree of heat at levels from three feet above the floor plates up to one foot down from the top of the stack and at all overheads within the space. Reference is made under Test Record to the thermocouple terminals at the locations given below:

No. 2—Projecting downward one foot into machinery space from second deck starboard side passage, sixteen feet aft of forward machinery space bulkhead and fourteen feet inboard from starboard shell plating.

No. 4—Projecting downward one foot into the machinery space from the galley deck, directly over engine.

No. 5—Projecting downward one foot into machinery space from carbon dioxide compartment, port side second deck, four feet forward of storeroom and workshop bulkhead and six feet inboard from port shell plating.

No. 6—Projecting downward one foot into machinery space from second deck, above electrical equipment platform, five feet forward of aft machinery space bulkhead and seven feet inboard from starboard shell plating.

No. 14—Six inches below ridge and five feet aft of forward bulkhead of the skylight house.

No. 15—Three feet above floor plates and ten feet forward of shaft tunnel entrance.

No. 16—Projecting ten feet into the machinery space from the mid-point of the forward bulkhead, three feet above floor plates.

IV. Test Record—

1. At 1410, the oil in the machinery space was ignited at nine different locations after priming with gasoline. Smoke backed down quickly from the overhead forcing the priming parties to withdraw from the machinery space by way of the shaft tunnel immediately following ignition of the oil.

2. From the topside, it was noted that almost immediately after ignition smoke started to come from the stack casing, the open skylights, and the forward port main ventilator. During the following twelve minutes the smoke coming from these openings was very black and in large volume.

(*Continued on page* 252)

Official U. S. Coast Guard Photo

Time-Out During Test on S. S. Gaspar de Portola. Commander Lloyd Layman in Center (Holding Safety Lamp)

WITH OUR READERS

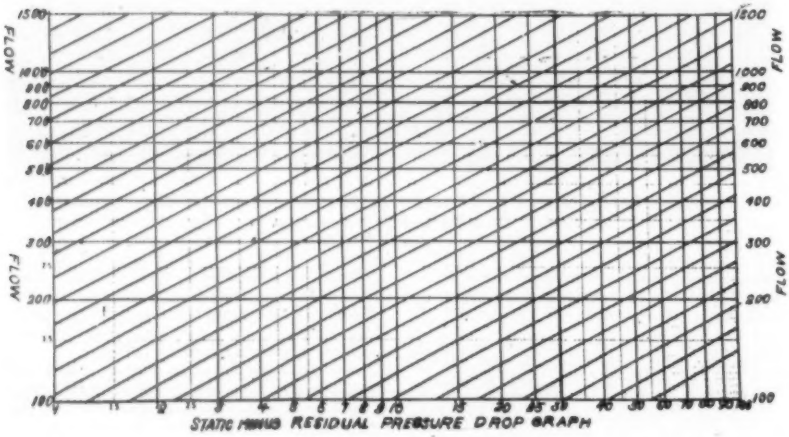
Fire Flow Tests

To the Editor:

We notice in FIRE ENGINEERING that you get requests, as do we, as to how to figure what flow can be obtained at some residual not given in the test.

Say a test is given—Static 50, Residual 30, Flow 1,500 gallons per minute. What flow is available at 20 pounds? Or what residual for a flow of 500 gallons per minute.

We obtain answers with a hydraulic slide rule, but as these are not available and are complicated to operate, we made up a chart using the slide rule to plot our points. A copy of this is included herewith and is simple to use when you know how.



Follow a vertical line corresponding to known drop until it intersects a horizontal line representing the known flow, then go up or down a line through this intersection parallel to the sloping lines, to a vertical line corresponding to the drop at which the new flow is required. The horizontal line at this intersection shows the flow.

The chart ought to be extended to include flows of 10,000 gallons. We have done this, but have no copies.

Yours truly,
G. M. GILKINSON, Engineer,
N. Y. Fire Insurance Rating Organization.

Nozzle Pressure at Cleveland Gas Fire

To the Editor:

Thank you for clarifying in the Question and Answer page of the February issue, the nozzle pressure at the Cleveland fire. It was my impression that both tips were ⅞-inch. Now that you report that one was ⅞-inch, that helps matters some.

Up in this country area we rarely can get more than one direct line on a fire and if we need two streams, we have to split the line at the fire ground, customarily using two ¾-inch tips. Our experience did not match the description of "very good" for such streams at such a distance.

You may be interested to know that I have been a reader of your paper for about fifty years, first getting acquainted with it as a boy when it was "Fire and Water" and I used to see it on the desk of my grandfather, president of the Hartford Water Board.

Yours truly,
HORACE B. CLARK
North Granby, Conn.

Auxiliary Fire Department of Reading, Mass.

To the Editor:

It has occurred to the Auxiliary Fire Service of the Town of Reading, Mass., that the readers of FIRE ENGINEERING might be interested in hearing of their activities.

Reading is a residential town of about 10,000 inhabitants, located approximately fifteen miles north of Boston. Its auxiliary fire service is made up of business men, most of whom are actually engaged in war work of one kind or another. Those whose business is in the town cover daytime alarms and the others answer alarms during the night.

Due to the serious shortage of manpower in our permanent department, the auxiliary fire service has taken over the equipment and manning of Engine 2 house. Two of the men sleep there every night. There are enough of us so that this assignment comes but once in every two weeks.

In Engine 2 house there are two pumps—Engine 2, a Seagrave Suburbanite and Engine 5, a truck assembled by the permanent men of the department. It carries a full complement of both 2½-inch and 1½-inch hose, plus a 200 foot booster line fed from a 140 gallon tank handled by the front end pump which can likewise take from draft or hydrant.

Yours truly,
G. L. ROBERTS, President,
Auxiliary Fire Service,
Reading, Mass.

Never Lost His Chew!

To the Editor:

On Sunday, November 5, at 3:30 P.M., a call came to the Redding Fire Department, advising that a man was in a well in the nearby community of Santa Claus. Truck No. 1, a 240—75-foot LaFrance aerial was dispatched to the scene.

Upon arrival it was found that A. W. Courtney, a rancher, had attempted to lower himself by a rope into a 45-foot well to rescue a cat. The rope broke at about the 35-foot level and Courtney plunged to the bottom.

Considerable skillful maneuvering was necessary to place the aerial between outbuildings on the property and in position to lower a rope attached to a special harness devised by Chief H. T. Klaukens. Courtney was conscious and able to attach the harness himself, and with smoothness and dispatch, he was raised from the bottom of the well without mishap by the fly extension of the aerial being raised.

Badly bruised and shaken up, but not seriously injured, Courtney said he did not even break his glasses or lose his

(*Continued on page 258*)

Members of the Auxiliary Fire Service with Chief H. L. Eames and Deputy Chief J. J. O'Brien of the Permanent Fire Department. Deputy Chief O'Brien Is Also Drill Master of the Auxiliary.

For Practical Discussion of Current Fire Department and Fire Management Problems

SPREADING LIFE NETS BENEATH LADDERS DURING RESCUE OPERATIONS

IN making rescue operations, it may happen that the fireman slips from his ladder and falls to the pavement below, carrying the rescued person with him. For that reason, some departments make a practice of spreading life nets beneath the ladder.

The chiefs replying to this round table were almost unanimous in their belief that this practice is a good one, but because of the serious manpower shortage in their departments were not able to carry it out. They felt, as a whole, that it was more necessary to direct their energies on ladder rescues than to keep six men occupied with holding the life net.

Readers are invited to send in their comments on this subject, which will be continued in the May issue. Address communications to Round Table Editor, 24 West 40th Street, New York 18, N. Y.

HERE IS THE QUESTION

It is a practice of some fire departments to spread life nets when ladder rescues are being made.

1. Do you believe this to be a desirable practice?

2. If so, why?

3. What, in your opinion, might be arguments against this procedure, if any?

Discussion of the Topic

Forrest M. Laufraw, Chief, Goshen, Ind.: I am in favor of spreading life nets under ladders on which a rescue is being made if enough men are available who are well trained in life net operations.

Catching a person in a life net is comparable to a fielder catching a baseball—only catching a person flying through the air requires the training of more than one man. If such a trained crew is present at the rescue scene, they should be most certainly be utilized to protect the firemen and the victims on the ladders in case they should fall.

R. George Woods, Chief, Englewood, Colo.: I see no objection to spreading life nets when ladder rescues are being made. It looks to me like an added safety precaution, eliminating the possibility of injury to the person being rescued.

Our department, consisting of fifty men, has no life nets, as we are fortunate enough to have only two story buildings.

E. G. Kolb, Chief, Boone, Ia.: I am unable to give an answer from experience pertaining to spreading life nets when ladder rescues are being made, although I am very much interested in the discussion as we plan to buy some nets with a new aerial truck we expect to purchase. I am in favor of this practice, as I don't believe we as firemen can take too many precautions when saving life is the issue.

The one argument against such a practice is shortage of manpower.

Edward J. Hart, Chief, Endicott, N. Y.: I believe it would be good practice to use life nets when ladder rescues are to be made.

It would be a double precaution against the possibility of the ladder slipping or the man making the rescue losing his grip or suffering a heart attack during the excitement, which often happens.

This practice would work out very well in the larger cities where there are four to six men per company, but in small towns and villages, where your personnel is limited, you would run into difficulties.

George Alford, Chief, Pine Bluff, Ark.: Personally, I believe it is good practice to have your life net spread when ladder rescues are being made, especially if you have sufficient manpower.

Harry Tigue, Chief, Keokuk, Ia.: I am in favor of spreading a life net under a ladder in that it gives a feeling of assurance to those being rescued. But on the other hand, it would be almost impossible for a person to hit the net if he fell off the ladder due to the fact that it would be difficult to get the net in the right position to catch him.

J. W. Miles, Chief, Crowley, La.: I thing it very wise to spread a lift net under a ladder when rescue operations are being made. It is necessary to use every means available to save life. In a case where there is only one ladder used at the end of a hall, you can use a net at the opposite side and rescue from both sides at one time. Rescue work is most essential in saving lives and should not be neglected or put off depending on ladders alone.

E. G. Smith, Chief, Bogalusa, La.: The spreading of life nets is, in my opinion, a good practice, provided there is sufficient manpower to hold them.

L. T. Lessinger, Chief, Nampa, Ida.: I believe the practice of spreading life nets when ladder rescues are being made is a favorable one. I feel that any additional factor of safety that could be used in making emergency rescues is a desirable practice.

One of the drawbacks is that there is often a lack of "on-the-spot" manpower. Small or undermanned departments would find it impossible to provide the manpower necessary for quickly bringing into play both life net and ladders, especially where heavy ground extension ladders are the only ladders available.

Ernest Yett, Chief, Bremerton, Wash.: I do not believe it is desirable to spread life nets when ladder rescues are being made. While it is possible for men to slip and fall, and I have seen that happen, I have never known a man to be killed in rescue work.

Because of the shortage of manpower, I believe it is more necessary to put them where they are most needed and can do more good.

Wallace Swafford, Chief, Coeur d'Alene, Ida.: It might be desirable to spread life nets under ladders when rescues are being made, if there is sufficient manpower available to spread the net without sacrificing valuable time in making the rescue. Otherwise, the first thing is to get the victim out. It is always true, however, that an ounce of prevention is worth a pound of cure.

A. M. Jaeger, Chief, Ecorse, Mich.: In this city we do not have any high buildings and therefore do not have any use for landing nets.

I have seen them used in some of our adjoining cities and believe it is a good practice. In one instance, a fireman was rescuing a person from a burning building via a ladder, under which a life net had been spread to assist in the event of emergency. The fireman had to drop his victim into the net to avoid being burned from fire from a lower window.

R. H. Grant, Chief, Fort Dodge, Ia.: We do not believe the practice of spreading life nets under ladders when rescues are being made is a desirable one. Departments the size of this one are usually too undermanned to perform rescue procedures of this kind at fires of any consequence.

The number of men required to hold a life net and the size of the life net itself, not to mention the limited space available under a ladder for spreading the net, might easily dislodge the rescue ladder, causing the firemen and persons being rescued to fall. This danger would not exist in the event that the ladder was secured before rescue operations started.

Emil A. Johnson, Chief, Boulder, Colo.: If a department has the necessary manpower to take care of both ladder rescues and spreading life nets, it would be a good thing to use both for safety.

In a small department like ours, with only six firemen on duty at a time, it takes most of the men to put

(*Continued on page 260*)

SHORT CUTS AND GADGETS

WE'RE happy to see how "Short Cuts and Gadgets" is taking hold with our readers. Contributions are piling in and the only thing that prevents our devoting many more pages monthly than we do to this feature are government paper limitations, over which we have no control.

Contributors who do not see their ideas in print soon after submitting it may be sure that if acceptable, they will ultimately be used and that payment for their efforts will not be delayed even if publication is.

Incidentally, the mail brings us this from George Wilkinson, Fall River contributor, whose idea for a hose holder appeared in April.

"Your check received by me and is gratefully acknowledged. What pleases me more however is the fact that your magazine FIRE ENGINEERING with its widespread circulation, will be the medium of passing the word or suggestion to the firemen of the country. My company, of which I am one of the youngsters, at 52 years of age, is typical of a company on the outskirts of a city. Personally I have spent many a weary hour "boring in" and with the weight of a loaded line and pipe in my arms. It is the thought that my suggestion may make the task so much easier for other men that gives such satisfaction to me and the pride that I have in seeing my item in print and receiving real money for it."

* * *

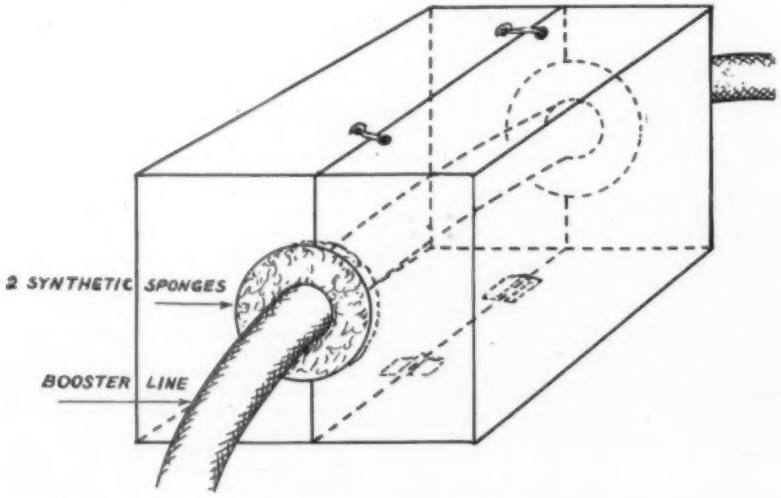
CLEANING A BOOSTER LINE

"I am enclosing a sketch and description of a 'gadget' I think will save time and labor in cleaning a booster line after use. I do not know of any such gadget in actual use, but I do know a booster line has to be wiped clean after each use, so why not clean it when winding it at the scene of a fire? By doing so the men would not have to pull the booster line off the reel and clean it when they return to quarters, keeping the equipment out of service while this is being done."

S/SGT. CHARLES L. MENG
Galveston, Tex.

"Here is Sgt. Meng's idea: "Cleaning Box for Booster Lines." This cleaning box can be used to wipe clean a booster line at the scene of a fire, when "pick up" order is given. This will save time and labor when company returns to quarters as the cleaning of the booster line will have been accomplished while rewinding the line. It may be mounted on the pumper where the line will pass through it, or it may be held in the hand while the winding is being done.

The gadget consists of two boxes, hinged at the bottom and closed at the top. It contains two synthetic sponges through which the line passes thus cleaning it. The front and rear of the box has a circular hole cut in it to allow the hose to past through. Its construction is similar to a chafing block.



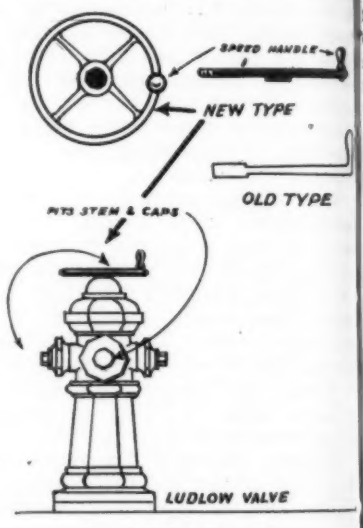
Cleaning Box for Booster Lines

The Sergeant concludes his letter "I anxiously await my copy of FIRE ENGINEERING each month as it contains useful information about the profession I plan to follow after the war. At the present time I am an auxiliary fireman at this air base. I am glad to learn some of the principles of fire fighting under the Army as I believe it will help me to be a better fireman after the war."

* * *

SPEED WRENCH

From H. B. Morris, Fire Chief Celanese Corp. of America, Narrows, Va., comes an interesting suggestion for a speed hydrant wrench to take the



Speed Hydrant Wrench

place of the old conventional type. Its originator claims that if the plug is sunk in the ground, or short, the handle of the old type wrench will strike the ground, or must be removed each time to get the cap off. He says that this simple gadget can be fabricated in any fire station workshop and really does the work, particularly where some hydrants may be low.

* * *

PROTECTION AGAINST TEMPORARY HAZARDS

This "Short Cut" is adapted from the very excellent *"Bulletin Devoted to Fire and Loss Protection"* issued by the Dayton Fire Department, Joseph A. Kirby Chief, and R. B. Korfiss Chief Inspector, which in turn quotes Pamphlet 10 on Standards of the National Board of Fire Underwriters.

In many industries temporary hazards occur from time to time. A good practice is to maintain a few portable stands or racks, of substantial construction, consisting of a horizontal bar on vertical uprights. Locate these stands as necessary and hang on them such special fire protection or fire extinguishment appliances as are needed for the "Special Hazard" to be protected.

In this connection, why wouldn't fire fighting rigs such as those developed for war time protecting plants and commercial buildings against incendiary air raids be ideal for this application?

Nozzle Reaction

To the Editor:

I am a member of the U. S. Coast Guard and working with the fire boat fleet. Several of us were having a discussion about hydraulics of hose streams when the question of nozzle reaction was brought up. I have always understood that the reaction of a hose line remained constant even if the stream should be directed against a solid object, regardless of how close to the nozzle it would be. Quite a heated argument arose. Some maintained that a man directing a stream of water from a ladder through an open window might be in danger of being knocked from the ladder if he directed it against the wall directly in front of him.

In our fleet we have a number of fireboats which are water propelled, having a three-inch jet fore and aft through which water is forced by four pumps. It was pointed out to me in the discussion that the reaction or push from these nozzles was much greater under water than if they were topside and discharging into the free air. Am I correct in my assumption that the reaction of a hose line remains constant even if it is directed against a solid object? R. L. D.

Answer: The reaction of a nozzle when discharging a stream is not changed by bringing the nozzle nearer to a wall so that the stream strikes the wall. Of course, if the nozzle were brought directly against the wall so that the flow of water were materially checked, the reaction would be reduced. Thus there would be no danger, insofar as reaction of nozzle is concerned, of a man being knocked from a ladder should he accidentally move the stream so that it strikes the window sill or other obstruction. Of course, the sudden deluge of water which might strike him might cause him to lose his balance.

Where nozzles are discharged beneath the surface of water, the reaction is reduced, depending upon the depth at which the nozzles are submerged.

The formula for reaction is:

$$R = W \times \frac{v}{g}$$, where W is the pounds of water discharged per second; v, the velocity of the stream in feet per second; and g, a constant which is 32.2 (acceleration due to gravity measured in feet per second per second).

Where a nozzle is submerged, the velocity of the stream from it will be less, due to the weight, or head, of water above it; the pounds of water delivered per second will also be less, and thus the value of reaction will be decreased.

For nozzles used for propelling a fire boat, the decrease in reaction would not be great, for the depth of submersion is small, and represents but a small percentage of the nozzle pressure. Nevertheless, the reaction would be decreased rather than increased when the nozzle is submerged.

Incidentally, it is an interesting fact that the reaction of a nozzle is approximately double the hydrostatic pressure on the area of an orifice. For example, if we take a 2-inch nozzle and 100 pounds pressure as an example, we get the following:

Area of nozzle equals 3.1416 square inches.

Pressure is 100 pounds per square inch.

Hydrostatic pressure on the nozzle area will then be 100×3.1416, or 314 pounds approximately.

The reaction will be twice this amount or 628 pounds, which tallies quite closely with nozzle reaction as determined by experiment.

Turning Over Motors

To the Editor:

It has been the practice for many years in our department for the oncoming shift to turn over the truck motors and permit them to run for a few minutes. I have heard that this is bad practice. I would appreciate your advice on this score.

W. B. R.

Answer: This question can well be answered in the words of Chief Alfred Peterson of the St. Paul, Minn. Fire Department. Speaking before the Northwest Fire School on May 16th, last, he said:

"The practice of starting fire apparatus on charge of shift is a survival of horse-drawn days. It has no value at the present time and is extremely harmful. It does not prove that the engine will start the next time it is needed to respond to a call. Automotive engineers, including those employed by fire apparatus manufacturers and lubrication experts of the oil companies strongly recommend against this practice. Besides diluting the lubricating oil, the frequent starting of a cold motor, and running it for only a brief period, results in excessive wear, the deposit of gum and carbon on valves and an unnecessary drain on the battery; the water vapor resulting from the burning gasoline and air is condensed in the crankcase and emulsifies the oil forming a sludge which plugs the lubricating system if not cleaned out at frequent intervals. It is the common belief that this practice is the direct cause of more motor trouble than any other operation."

To this we might add that maintenance and operating manuals of both the government fire forces and fire apparatus manufacturers counsel against the old practice. Drivers and chaffeurs should not be encouraged to start their motors going on shift, at any time except when absolutely necessary for test purposes. If batteries are fully charged and proper lubricating oil and anti-freeze are in the system, as recommended by the manufacturer, there should be no difficulty in starting motors when necessary to "roll."

Busiest Fire Company

To the Editor:

There has been some argument here over where and what is the busiest fire company in the United States. Can you tell us?

"Men of Eng. Co. 21"

Answer: The question does not state what is meant by "busiest." One company may have more runs than another, but fewer working fires. If, by "busiest" is meant *both* runs and work we believe the honors would go to Truck Co. No. 26 of the New York Fire Department.

In 1944 this company made 1696 runs and went to work at 869 fires. In 1943 the same company made 1312 runs to 606 "workers."

Busiest engine company, we are told, is Eng. Co. No. 58, the same city, which in 1944 made 1416 runs and had 782 working fires, while in 1943 the runs were 1173, with 541 working fires.

As may be expected, the companies leading the list in that city are in the predominantly congested tenement districts where the life hazard is great at all times.

Flying Tank Wagons

To the Editor:

The statement has been made that many of the modern large bombers and transport planes carry as much gasoline as an average delivery tank truck. Is this so? For example, what is the gasoline capacity of the B-29?

Answer: Yes indeed! Although they may not be loaded to their capacities (any more than a delivery tank truck) the gasoline capacity of commercial and army cargo and passenger planes amounts to as much as, or even greater than 1,000 to 2,500 gallon tank trucks. The published figures on the B-29, released by the Overseas Air Command, are that it takes 160 55-gallon drums (8,800 gallons) of gasoline to fuel a B-29.

Correction

In "What's Burning" published on Page 116 of the February issue of FIRE ENGINEERING and listing fires which occurred in January, the City of Superior, Wis., was credited with a $60,000 blaze in the Lee Brothers Mercantile establishment. Chief Olaf Sorenson of that city informs the editor that there is no such establishment in Superior and that he had no blaze answering that description.

Our inquiring reporter overhauls the firemanic news of the day

Department of Red Faces

Several of the faithful sent us the yarn about firemen of a certain station which we'll call Co. No. 0 in Detroit who are still trying to explain away the fact that when a brisk blaze broke out in the attic of their two-story fire house, one night in February, they had to call for help to extinguish the fire. Worse still, they had to hustle a man to the nearest neighborhood telephone to summon the aid!

When they attempted to summon their pals, in the orthodox manner—after finding the blaze was getting out of hand, they found the wire circuits had burned out, and along with the "house box" telephones and whathaveyou. Tennyrate, two more engine companies finally responded and the day was saved —if not the composure of the men of No. 0 company!

* * *

Plenty of Potential Death

There will be enough matches available in 1945 to supply each civilian user with 4,700 with which to light the cigarettes he won't get. This, we are told, is less than one match below normal, daily civilian consumption of fourteen to a person. Because of battle and weather conditions, each Army man uses 43 matches daily and Navy men average 31. The armed forces will get 159 billion matches and the home front will have to get along on a paltry 320 billion, two-thirds of which will be old-fashioned kitchen variety.

Firehouse statisticians may be able to work out just how many fires will be caused, and how much property and how many lives lost from these "light-sticks!"

* * *

Hot Off the Ticker

Move for a mandatory pay increase of $450 a year for New York City's policemen and firemen is in the state legislature. . . . Mrs. Anna Morrison, wife of a service man overseas was seriously burned when her clothing was ignighted by the freak explosion of a cigarette lighter (thanks P. Mc. N., Tonawanda, N. Y.). . . . Dr. Wm. T. Shepherd, educator and founder and head of Columbia University Prep School, Washington, D. C., died from suffocation when his lighted pipe set his bed and room afire while he slept. . . . Fireman Emil Liptak, Yonkers, N. Y., was overcome while fighting a basement fire even though he wore a gas mask. Coal gas and carbon monoxide—no oxygen—wrong mask—brother firemen rescued him. . . . Red points go up! 42 head of cattle perished in a barn fire near Chester, N. J. Firemen saved 40 more. . . . Third fire in half century at Homer Academy, Homer, N. Y., caused $100,000 loss. . . . The Sacramento City Council has reiterated its stand against dispatching city fire equipment outside the city without charge. . . . *Denis F. O'Brien,* 80, *who designed the fire hydrant used by New York and many other cities, died at his home, East Orange, N. J.* . . . Union Township, Ohio, Trustees want the city of Washington Court House, Ohio, to furnish fire protection. According to press reports "it is expected that, with the auxiliary equipment furnished by the government, little difficulty will be experienced in arriving at some working agreement with the Union Township Trustees." . . . Orchids to two Negro boys of Des Moines, Ia., who, discovering a fire in a house, broke in and rescued two children aged one and one minus, who had been locked in the house alone, by their mother who had gone downtown. (Thanks E. R.). . . . In Chicago, a crippled 44-year old man confessed to setting 24 recent fires including an apartment house fire fatal to seven (also E. R.). . . . Firemen Norris and Cordes, N.Y.F.D., rescued a 62-year old woman who fell into a sewer while street cleaners were pushing snow into an open manhole. Woman was hospitalized with broken leg and shock. Rescue was affected with aid of a roof rope. . . . Somehow we can't cry over this 'un: the owner of a Chinatown, N. Y. C., tenement in which seven Celestials were burned to death June 21, 1939 and who was convicted of criminal negligence, finally lost a four years' court battle; he's in Sing Sing serving a sentence of three to six year. . . . Not long ago the Monee, Ill., Volunteer Fire Department celebrated its 60th Anniversary; carnival proceeds went toward buying better fire fighting equipment. . . . January, firemen at Canton, Ill., thawed frozen hydrants with acetylene torches and worked from 1 to 5 A. M. to confine fire in a men's clothing shop, aided by Brothers from Peoria and Farmington. Damage $30,000.

* * *

Eaton Turned the Heat On

From an anonymous contrib' comes the story about Clyde Eaton of Greenville, N. H., the one-man-fire-department-plus. Seems that Clyde discovered a chimney fire in his home and forthwith dashed for the nearest fire alarm box to ring in an alarm. But the box was out of order and so, when nothing materialized, the whilom Eaton, nothing dismayed, did a sprint for the fire station, into which he burst like a cyclone and out of which he swept at the driver's helm of the community fire truck.

Reports hath it that Clyde, the one-man-department, had his chimney fire well under control before the vamps (who mebbe hadda walk) arrived at the scene. Mebbe they oughta sign up Clyde!

* * *

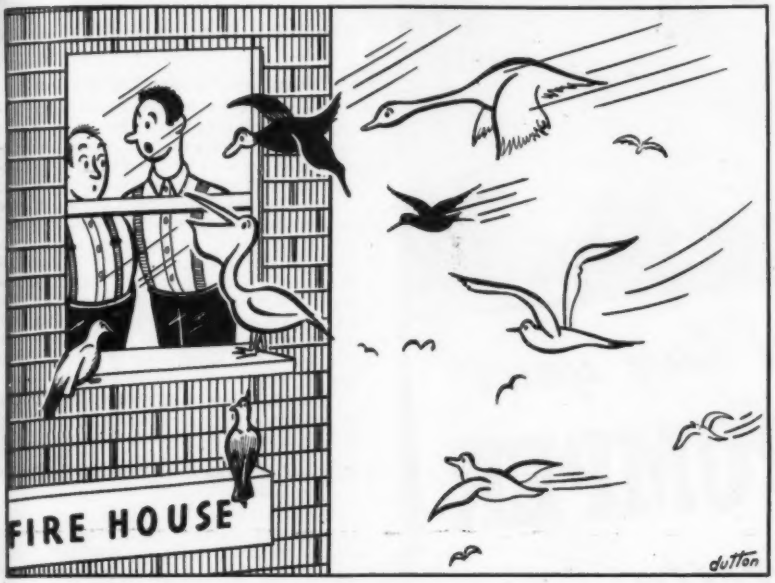
Aerial Fire Spotter

Some time ago, Livonia Township, Mich., Fire Department, credited a flyer with an assist in saving a farmhouse from destruction. Flying overhead, a pilot, whose regular job is radio operator at the Willow Run Bomber Plant, noticed the roof of a farmhouse ablaze. He sped to the Triangle Airport, landed and telephoned a call to the department, which got right on the job. Part of the roof and upper story was damaged, but the flyer's action doubtless prevented a total loss. (Thanks, H. T. Valrance.)

Three Die in Tacoma Fire

Firemen pour water on still burning embers from fire that gutted a 40-room Tacoma, Wash., apartment house. At least three persons were known to have perished in the fire.

FALSE ALARMS



"It All Started Last Year—I Put Out Some Bread Crumbs for the Sparrows!"

True Love

Last night I held a lovely hand
A hand so soft and neat,
I thought my heart would burst with joy,
So wildly did it beat.
No other hand unto my heart
Could greater solace bring
Than the dear hand I held last night—
Four aces and a king.

"By the way, who is that long and lank girl standing over there?"

"Sh! She used to be long and lank, but she's just inherited $100,000. She's tall and stately now."

Lesson

"Did you give your wife a lecture on economy?"

"Yes."

"Any results?"

"Yes—I gave up smoking."

There ain't no justice in this yere lan',
I just got a divorce from my ole man
I had to laugh at the jedge's decision
He gave him the kids an' they ain't even hisn.

A woman driving in the country saw three telephone linemen climbing poles. "Darn fools," she said. "Do they think I can't drive a car!"

Make It Legal

You've already had leave, Ferguson, to see your wife off on a journey, for your mother-in-law's funeral, for your little girl's measles, your boy's christening, what is it now?"

I'm to get married, sir.

A woman recently acknowledged the payment of a life insurance policy in this manner:

"On July 1 my husband took out a policy with your company. In less than three weeks he was killed in an automobile wreck. I think insurance is a good investment."

Dead Pan

More: "Well, honey, I must be going now, I hope I haven't bored you too much."

Girl: "Not at all. I was an undertaker's assistant once and I'm used to sitting up with the dead."

Nut House

Visitor (at asylum): "Do you have to keep the women inmates separated from the men?"

Attendant: "Sure. The people here ain't as crazy as you think."

Sympathy is what one woman offers to another in exchange for details.

Too Late

"Where didja get that black eye?"

"For kissing the bride after the ceremony."

"Isn't that the usual custom?"

"But this was three years after the ceremony."

Teacher was testing the knowledge of the kindergarten class. Taking a half-dollar from her purse, she tossed it on the desk and said: "And now, children, what is that?"

Instantly a voice from the front row answered: "Tails."

Maiden Aunt: "I'm sorry, Jack, that you don't like your gift. Remember, I asked you whether you preferred a large check or a small one?"

Jack: "But I didn't know you were talking about *neckties*!"

"I Met Her on the Second Floor!"

Frederic Lewis Photo
When you buy your
NEXT PUMPER
Specify
WATEROUS
—and you'll get lots of water at plenty of pressure.
Large, smooth passageways, efficient performance and over-all quality of design are some of the basic reasons. We'll be glad to show you how WATEROUS pumps are built.
Literature on Request
WATEROUS COMPANY • ST. PAUL, MINN.
Also Manufacturers of Waterous Fire Hydrants
Waterous
SINCE
WATEROUS FIRE PUMPS

Automatic Sprinkler Systems

(*Continued from page 239*)

shut off by the master mechanic who arrived thirty minutes later, the night fireman having been critically injured. Leather soles were wet down. Loss $18,848.

Note: Prompt shutting off of sprinklers after fire is OUT *will save much water damage.*

Sprinklers were controlling the fire

Ten sprinklers were controlling a roving bin fire in the third story of a cotton mill building when the public fire department arrived and, without attempting to ventilate the smoke filled room, discharged two large high pressure hose streams into the room for one hour and twenty minutes, or until the chief engineer of the plant arrived and ordered them shut off. With the help of gas masks, windows were then opened, the room ventilated, and the fire soon extinguished with the aid of a small hose stream. All lower stories were thoroughly wet down. Loss $67,675.

Note: Prompt and proper ventilation aids in reducing water damage as well as fire damage.

The use of large hose streams increased the loss

After some delay because of other fires in the vicinity during an electrical storm, firemen arrived and used two large hose streams and one chemical line on a fire in office records, which was being controlled by five sprinklers. The chemical line would have put out the remaining fire and the promiscuous use of large hose streams increased the damage. Loss $3,659.

Note: Excessive water use—an old practice—has become less popular in recent years. Use of small hose lines is correcting this fault.

IV. — Non-Familiarity with Special Hazards

Public fire departments are not always familiar with the special hazards or plant conditions in their area. Frequent and regular plant inspections by fire department officials help to prevent mistakes during an emergency.

A hose stream washed away the foam

Just as employees had nearly extinguished a varnish dip tank fire with foam, the fire department came in with a hose stream and washed the unextinguished varnish onto the floor and into other tanks. A second hose stream was used to put out the fire in about 30 minutes with the aid of 17 sprinklers. The fire department had foam apparatus but no powder. Loss $4,300.

Hose stream used on aluminum borings

When the fire department directed a large hose stream onto a fire in a pile of scrap aluminum, chiefly in the form of borings, a violent puff distorted steel sash, cracked wired glass windows, and injured several employees. The fire was later put out with sand. Loss $3,804.

Electric power was ordered shut off

While fighting fire at an acid tower at a large chemical plant, the public fire department ordered the electric power shut off of the entire plant at the power house.

15 lb. Size

ABOVE: CO2/Foy General's famous carbon dioxide extinguisher, is especially suited for fighting oil, gasoline, and electrical fires. Write for details. FREE: Norman Rockwell's painting of Mrs. O'Leary's cow and the Great Chicago Fire illustrates General's new wall calendar. Write for your copy. No charge.

As good as he is in his galley, the ship's cook doesn't belong at the wheel. That's a job for an experienced helmsman. Each is a specialist.

Likewise, no one fire extinguisher is a "jack-of-all-trades." Each extinguisher is designed for maximum effectiveness against certain types of fire.

General Detroit manufactures a *complete* line of fire extinguishers—vaporizing liquid, carbon dioxide, soda acid, pump, and foam types—the *right* extinguisher for every fire fighting need!

Whatever your protection problem, consult General, specialists in fire protectioneering for over forty years.

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2270 E. JEFFERSON AVE., DETROIT 7, MICH.
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CHICAGO DALLAS NEW YORK
West Coast Affiliate: The General Pacific Corp.
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Let General Protectioneers prescribe the *right* extinguisher for your every fire hazard.

REAL HEAD SAFETY

-for every alarm!

The M·S·A Streamlined FIREMAN'S HELMET

PROVIDING top safety, comfort and durability on normal fire-fighting assignments everywhere, this new and widely-popular M.S.A. Helmet qualifies on every count for the added demands of wartime service. Falling and flying objects, chemicals, and live wires are countered by strong, non-softening, high dielectric strength laminated bakelite construction. *Comfort* on-the-job is assured by light, well-balanced design and special features. For the facts—write for Bulletin No. DX-5, or ask for a demonstration!

MINE SAFETY APPLIANCES COMPANY
BRADDOCK, THOMAS and MEADE STS. . . . PITTSBURGH, PA.
DISTRICT REPRESENTATIVES IN PRINCIPAL CITIES

Without power to keep steam and water circulating, the lead-pipe equipment in the acid and other cooling towers would have melted and other processes would have been interrupted, causing heavy damage. The plant superintendent had the needed power immediately turned on again. Loss $25,081.

Several firemen burned

Being unfamiliar with the contents of a scrap metal storage building, the fire department used a large hose stream on a fire in scrap magnesium. The water caused the magnesium to blaze up and several firemen were badly burned. The fire department then used good judgment in handling the blaze with a spray nozzle and sand. Loss—moderate.

Coast Guard Fire Tests

(*Continued from page* 243)

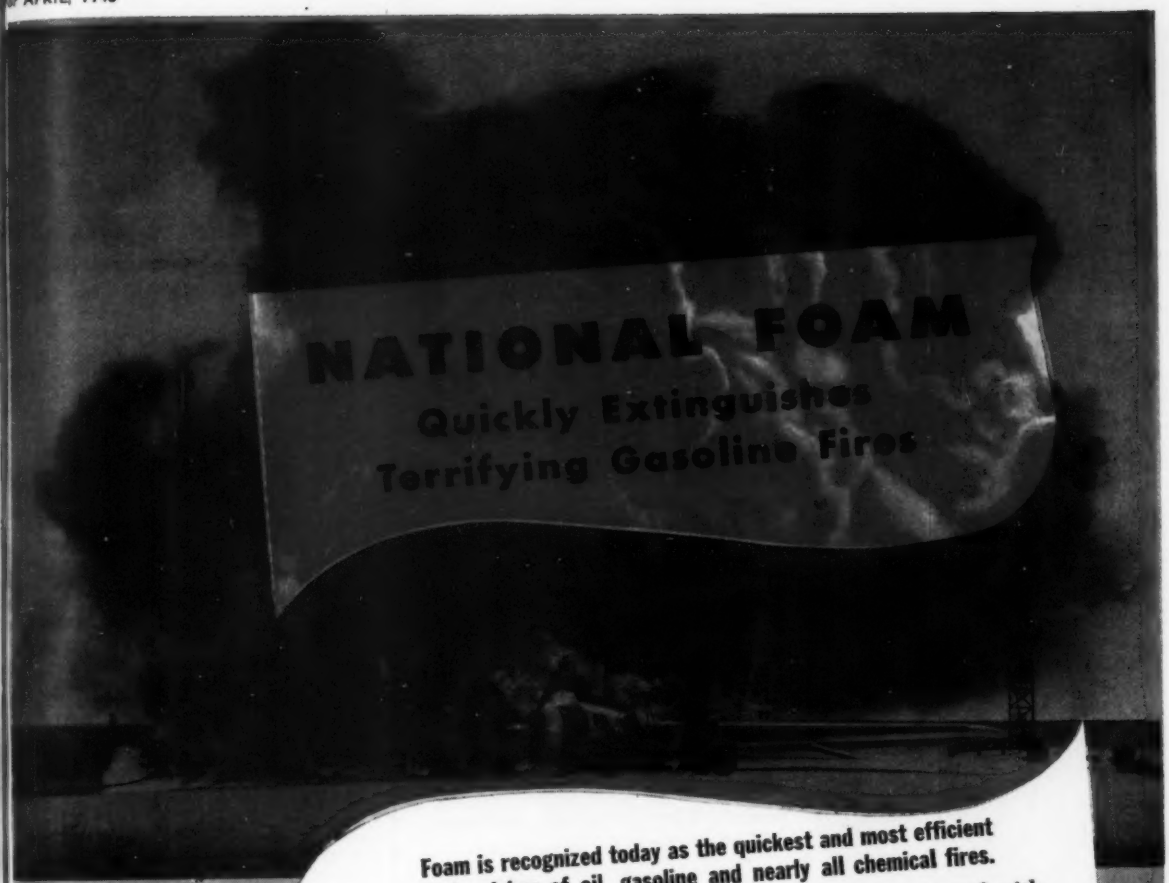
3. At 1423, the smoke coming from the stack casing changed to very dark gray in color. At this time the average temperature within the machinery space was 383°F. The highest temperature was 620° F. at thermocouple No. 2 and the lowest was 183°F. at thermocouple No. 15.

4. At 1440, thirty minutes after start of test, covering of air intake openings was started. The smoke coming from the stack casing was very dark gray in color. The average temperature within the space was 669°F. The highest temperature was 965°F. at thermocouple No. 4 and the lowest was 455°F. at thermocouple No. 16. Note: A hatch tarpaulin was used to cover the entire skylight housing including the two small ventilators. Specially designed oval canvas covers were used to cover the six main ventilators. Water fog was used to cool some of the ventilators and the skylight housing. An asbestos cloth curtain, with small brass hooks along the upper edge, was used to cover the grilled opening between the Engineer's Storeroom and the second deck port side passage.

5. At 1446, thirty-six minutes after start of test, the covering of all air intake openings was completed. The average temperature within the space was 599°F. The highest temperature was 790°F. at thermocouple No. 4 and the lowest was 250°F. at thermocouple No. 14. During the covering operation, the emitting smoke constantly diminished in volume and changed to light gray and light brown in color.

6. At 1448, thirty-eight minutes after start of test, a 1½ inch hose line equipped with 1½ inch straight applicator and a 2½ inch low velocity fog head was inserted under the canvas hatch tarpaulin, used to cover the skylight house, into an open skylight on the port side. The hose was lowered approximately 15 feet and low velocity fog applied at this point. At this time the average temperature within the space was 588°F. The highest temperature was 823°F. at thermocouple No. 4 and the lowest was 235°F. at thermocouple No. 14.

7. At 1453, five minutes after start of application of water fog, the average temperature within the space was 452°F. The highest temperature was 565°F. at thermocouple No. 5 and the lowest was 238°F. at thermocouple No. 14. A small amount of smoke, with steam apparent, was emitting from the stack casing.



B-29 Superfortress, on Saipan, burning after having been bombed by Jap planes before fire protection was made available.

Foam is recognized today as the quickest and most efficient extinguisher of oil, gasoline and nearly all chemical fires.

Most airplane bases and flying fields are now equipped with Foam which is quickly available in case of crash landing or other serious fires. Every ship in the U. S. Navy now carries Foam equipment to combat oil, gasoline or other hazardous fires.

National Foam first proved its efficiency in the petroleum field where it demonstrated its ability to extinguish oil and gasoline fires more quickly and effectively than any other method. For many years, National Foam and Equipment have been used by large oil refiners and producers and by many other important industries.

Types of National Foam and proper equipment are now available to provide quick and efficient fire protection in the general industrial field—National Foam is especially recommended for activities when petroleum products, paints, oils, etc., are used or stored.

Our engineers will gladly consult with you and advise regarding the National Foam and Equipment best suited to your requirements.

IN FIRE DEPARTMENT SERVICE

National Foam System has equipment especially designed for use of Fire Departments to meet all types of foam fire-fighting requirements.

BACK THE ATTACK—BUY WAR BONDS

NATIONAL FOAM SYSTEM, INC.

Specializing in Foam Fire Protection

Packard Building, Philadelphia 2, Pa.

YES! YOU CAN STILL BUY MIDWESTERN PROTECTIVE CLOTHING!

COMBINATION SUIT

The Coat . . .

Midwestern's No. 101 Fireman's coat is highly serviceable and popular in the larger municipal departments throughout the country. Flexible elastic inner sleeve for wrist to keep out water, cold and sparks; adjustable collar strap, detachable wool lining, Midwestern Safety snaps, two outside pockets, 6-inch storm flap and many other fine Midwestern qualities.

The Pants . . .

These Midwestern Bunker Pants are equipped with a removable wool lining which has safety snaps that cannot catch on anything. Sturdy construction, reinforced crotch for pole sliding. These pants together with coat illustrated above are Midwestern's outfit No. 101.

REGULAR FIREMAN'S BOOTS NOW AVAILABLE

Fireman's boots ¾ length, reinforced instep, felt linings. Do not confuse these boots with reclaimed boots which have been offered firemen for past 2 years. These are regular fireman's boots made of the new synthetic rubber. Write.

MIDWESTERN MFG. CO.
MACKINAW, ILL.

See your local Midwestern distributor for prices and literature, or write the factory.

8. At 1458, ten minutes after start application of water fog, the avera temperature within the space was 36 The highest temperature was 470°F. thermocouple No. 5 and the lowest w 160°F. at thermocouple No. 15.

9. At 1553, fifteen minutes after sta of application of water fog, the avera temperature within the space was 311° The highest temperature was 407°F. thermocouple No. 5 and the lowest w 135°F. at thermocouple No. 15. A ver small amount of steam and light gra and light brown smoke was emittin from the stack casing.

10. At 1508, twenty minutes aft start of application of water fog, th average temperature within the spac was 286°F. The highest temperatur was 393°F. at thermocouple No. 6 an the lowest was 125°F. at thermocoupl No. 15.

11. At 1513, twenty-five minutes afte start of application of water fog, th average temperature within the spac was 249°F. The highest temperatur was 330°F. at thermocouple No. 5 an the lowest was 113°F. at thermocoupl No. 15. At this time an extremely sma amount of steam and light gray an light brown smoke was emitting from the stack casing.

12. At 1521, thirty-three minutes afte start of application of water fog, th average temperature within the spac was 213°F. The highest temperatur was 287°F. at thermocouple No. 5 an the lowest was 100°F. at thermocoupl No. 15. Application of water fo stopped.

13. At 1522, one hour and twelve minutes after start of test, an inspection party entered the machinery space by way of the shaft tunnel and was able to proceed in an upright position to any point at the floor plate level without physical discomfort. It was found the only burning was in a small amount of class "A" material (wooden bench and bulletin board). This was extinguished with a small amount of water from one 1½-inch all-purpose nozzle.

14. At 1522, an Explosimeter was used to determine the presence of oil vapors within the space. Tests for vapors were made at various locations within the space at a level of one inch above the surface of the oil. There was no indication of vapors being present at any point.

15. At 1522, temperature readings of the oil were taken at the following locations:

a. One foot from the aft bulkhead, on the starboard side, the temperature was 120°F. at a point one-half inch below the surface and 110°F. at two inches below the surface.

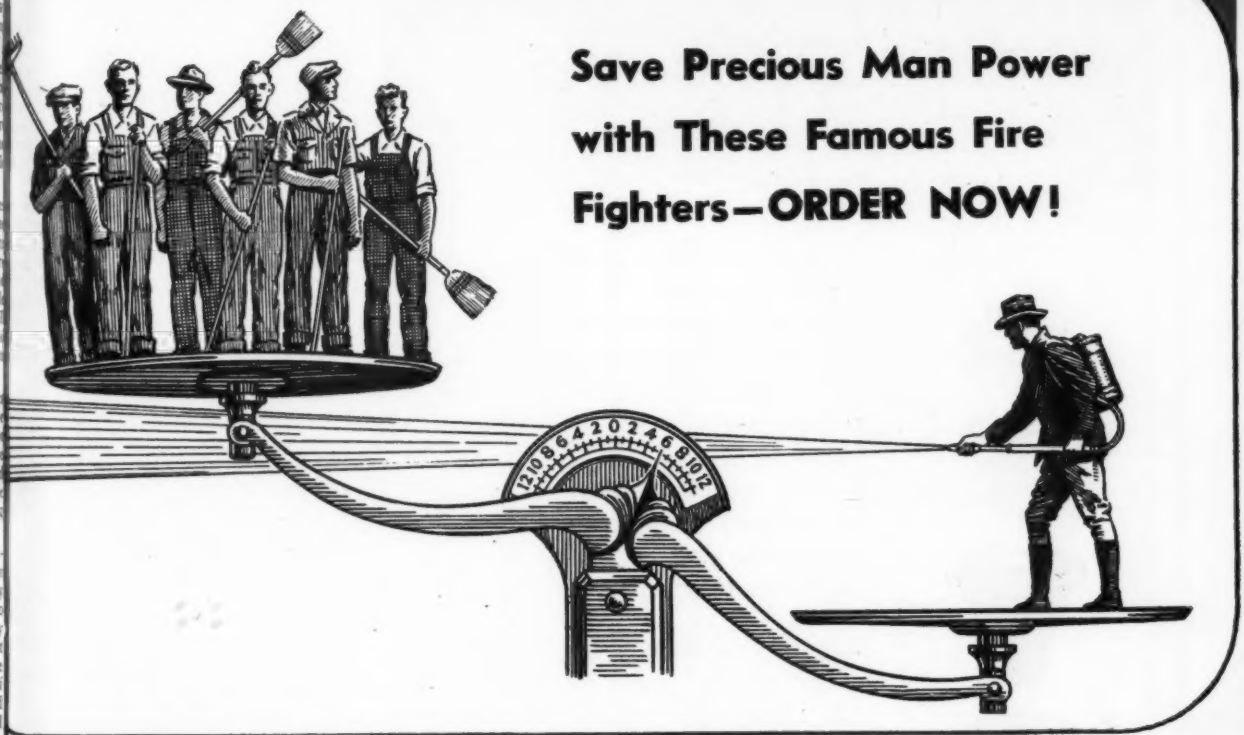
b. One foot from the forward bulkhead, amidships, the temperature was 170°F. at a point one-half inch below the surface and 128°F. at two inches below the surface.

16. At 1528, and during the following two minutes the covers were removed from the skylight house and the main ventilators.

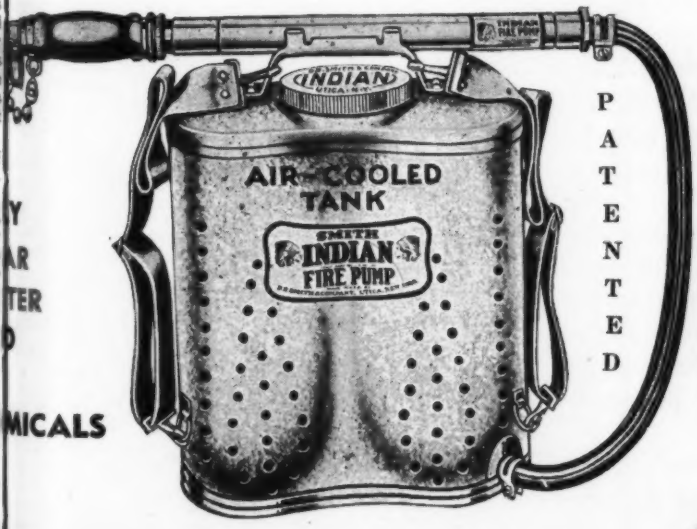
17. Heat indicating lacquer showed the following temperatures were reached:

a. On the aft bulkhead of No. 3 hold a temperature of at least 175°F. was reached at all locations and a temperature of 400°F. was reached at some locations. None of these spots painted on the forward surface (15 inches from bulkhead) of a vertical

One INDIAN FIRE PUMP DOES THE WORK OF *Many* MEN!



Save Precious Man Power with These Famous Fire Fighters—ORDER NOW!



Prepare for Hot Weather Fires

Now is the time to check over your supply of INDIAN FIRE PUMPS and be sure you will have enough to take care of this summer's calls.

They are inexpensive — require no chemicals — and are built strong for years of service. Your equipment is not complete without an ample number of INDIAN FIRE PUMPS. If you want to know more about these great portable fire fighters send for catalog and price list.

D. B. Smith & Co.
Utica, N. Y.

About a year ago I bought some of your INDIAN FIRE PUMPS and I want you to know that I am very well pleased with them. They are fool-proof and work freely and easily and have already been put to good use. The INDIAN FIRE PUMP is a great fire fighter.

H. J. Borchert

FOR INSIDE AND OUTSIDE FIRES USE

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Clear Water

FIRE PUMPS

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406 Main St., UTICA 2, NEW YORK

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"KNOW HOW" DIDN'T COME OVER NIGHT

The amazing leadership enjoyed by EASTMAN fire-fighting products is the result of 121 years of engineering and precision manufacturing experience in serving civilian fire departments all over the country — and now on every spot of the globe where our fighting forces may be.

Yes sir! way back in the old days when Grandpa was a little shaver 121 years ago young Eastman opened his modest factory at Concord, N. H. Fire fighting apparatus of those days were crude affairs that needed study and improvement. Down through years the Eastman organization has steadily advanced new ideas in design and efficiency. And through their united efforts they today hold the distinction of undisputed leadership in helping to save more lives and property from fire loss. That's experience that spells "Know How" in the production of the best.

Nothing takes the place of Experience

SAMUEL EASTMAN COMPANY, INC.
CONCORD, N. H.

"I" beam bulkhead stiffener rea 175°F.

b. In the No. 3 'tween deck sec spots painted on the deck one from the aft bulkhead and on bulkhead one inch above the reached 175°F. at the mid-point Spots painted on the bulkhead feet above the deck did not r 175°F.

c. In the No. 4 'tween deck sec spots painted on the deck one from the forward bulkhead rea 175°F. only at the mid-point and the starboard side. Spots painte the bulkhead one inch above the reached 250°F. at the mid-point on the starboard side. Spots on port side did not reach 175°F. S painted on the bulkhead five above the deck reached 250°F. a locations.

18. The volume of water used estimated at approximately 3,762 gall

19. Eleven hundred and eleven perature readings were recorded du the test.

V. Weather Conditions During Te

1. The weather was cloudy wit south wind of six miles per hour. relative humidity was 55% and the perature 44°F. The barometer 30.07 inches.

VI. Conditions After Test—

1. The machinery space was practically the same condition as ported after Test Fire No. 7 conduc 29 November, 1944 with the follow changes:

a. All surfaces coated with car except where washed clean by wa fog, at forward end of engine, and forward bulkhead at starboard corn

b. Additional warping of floor pla

c. Additional burning of wood bench top in lubricating oil tank a

d. Deck of electrical equipm platform warped.

VII. Tentative Conclusions—

1. A major fire involving fuel under the floor plates can be ext guished by the control of air flows a the use of low velocity water fog a plied from the upper level at one po only.

2. Temperature readings of the oil dicate a uniform cooling of the oil effected during the process of ext guishment.

3. Upon completion of extinguis ment there is no indication of the pr ence of fuel oil vapors within the spa

Editor's Note: See the *May issue fourth installment of Commander Laym tests.*

Fairfield County "Plan" Meetin

The Emergency Plan of Fairfi County, Conn., will hold its March me ing on the 28th at the Easton, Co Fire Headquarters. The princip speaker will be Lieut. Frank Starkel the State Fire Marshal's office.

The following meetings are schedu for 1945, all in the county:

April 25, Darien Fire Department, Noroton Heights Fire House; May annual banquet, place to be announc June 20 or 27, Long Ridge Fire Depa ment, Long Ridge; September 26, Nich Fire Department, Nichols; October Bolltown Fire Department, Bolltow December 19, Noroton Fire Departme Noroton.

The SEAGRAVE *Safety-Steel* AERIAL LADDER

Unfailing dependability . . . that's the record of the Seagrave Safety-Steel Aerial Ladder. This ladder gives your department more in safety and sturdy construction. Every inch is thoroughly welded for greater strength. No holes, bolts nor rivets to weaken the structure. Trusses above ladder rails give firemen an added sense of security when climbing. Each section of the Seagrave Aerial locks into place, converting the ladder into a single rigid unit. One man raises, extends, lowers and rotates the ladder through hydraulic power developed by the Seagrave built V-12 Motor. The exclusive features of the Seagrave Safety-Steel Aerial are another demonstration of Seagrave leadership.

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THE GREATEST NAME IN FIRE APPARATUS

BLITZKRIEG

OLD STUFF TO AMERICA'S FIREMEN!

Blitzkrieg—"lightning attack"—fast, heavy assaults with a variety of weapons, is a familiar thing to America's firemen. Since the days of the first steam fire engine, they have been developing and expanding their use of mechanization.

Familiar also to firemen and their chiefs are the outstanding Eureka developments of the past 70 years—Smooth Interior Filler Ply for maximum nozzle pressure, Balanced Weaving that prevents excessive writhing and twisting, Bomb-Tested Linings for more years of dependable service.

EUREKA

"For greater protection to life and property"

EUREKA FIRE HOSE

Division of United States Rubber Company

1230 Sixth Avenue · Rockefeller Center · New York 20, N. Y.

With Our Readers

(*Continued from page 244*)

chew of tobacco. He also said that h could not catch the cat to bring it w with him. He also said that he wi hereafter refrain from being a Boy Sco and stay out of wells.

The aerial was operated by L. Wade, Other Redding firemen who a sisted were: Archie Thorpe, Paul Hirsc and Robert Gullizson.

Cordially yours,
L. B. MORGAN
American-La-France-Foamite Corporati
San Francisco, Cal.

Air Craft Crash Fires

To the Editor:

In the military our crash crews hav often used techniques like that describe in your January issue on aircraft crash fires. We do differ in one certain respect.

As described, you provide but on 2½-inch line to feed a pumper delivering as many as six 1½-inch lines. We hav found that arrangement inadequate. W make a practice of dropping two line from source to pump. Even when relay ing water because of distance from source to pump we drop two lines, each pumper laying one. It is our practic to use the split hose box, ready fo straight or reverse laying, thus es countering no delay if only one pumpe should be available or used.

A READER.

"Soo" Has $200,000 Hotel Fir

Sault Ste. Marie, Mich., joined the many other cities which suffered se vere hotel fires early in the year when the 86-room Murray Hill, one of it oldest hostelries, was destroyed an adjoining buildings heavily damaged i a spectacular fire in sub-zero weather Fortunately no lives were lost, the 10 and more guests being led to safety by firemen, police and volunteers.

The first alarm was received at 3:0 A. M. on a Sunday morning and Chie F. F. Trombley immediately transmit ted a general alarm bringing all the city's regular, auxiliary and volunteer fire forces. Aid was sent by the Coas Guard, Fort Brady and Algonquin Mich. Several firemen had narrow es capes from falling walls, and spills o the icy streets. A severe loss were the records of Selective Service Board No 1 which had offices in the building to gether with two restaurants, a casualty insurance company, studio, drug store clothing store, hardware and general store and a Western Union office. Ac cording to Chief Trombley, the total property loss was $200,000. One fir truck was damaged by a falling wall.

The Cover Picture

Three thousand persons were made homeless when fire struck the town of Lares, Puerto Rico, recently. Five hundred wooden homes housing three quarters of the town's population were destroyed.

The Insular Government has announced that 300 concrete blockhouses will be built on a forty-five acre tract to house the victims of the fire, which was one of the worst in Puerto Rican history.

She will be Saved–But–

Nearly 10,000 persons lost their lives in fire in U. S. last year. Some of this loss of life —much of it in fact—could have been prevented by the use of modern rescue equipment. ATLAS LIFE NETS are the last word in safe, modern rescue equipment. They are in daily use by hundreds of fire departments. Plan for an ATLAS NET on your new apparatus. Discard your old outmoded net for an ATLAS—they're available now.

Illustration courtesy of Geo. LaMonte & Son Manufacturers of Safety Paper

Specify ATLAS on new apparatus

ATLAS SAFETY EQUIPMENT CO., Inc.

26 WARREN STREET ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ NEW YORK 7, N. Y.

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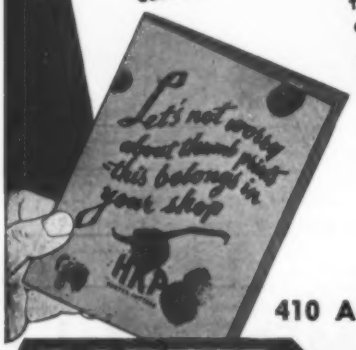
POWER TO CUT RODS, BOLTS, BARS, CABLE, WIRE, CHAIN BY HAND

PORTER HKP CUTTERS work anywhere that two normally strong hands are available to put a few pounds pressure on the handles. Toggle-joint leverage will increase this pounds pressure to tons pressure on the jaws and even case-hardened chain can be cut "where is and as is". Standard models meet most production, construction, maintenance and emergency requirements.

The same power principle is applied to special tools for heading, pressing, crimping, punching and caulking with equal effectiveness. Send for our free booklet on tool maintenance to make clippers, saws, chisels, files and other tools do better work and last longer.



H. K. PORTER, INC.
410 Ashland St., Everett 49, Mass.

PORTER HKP CUTTERS

The Round Table

(*Continued from page 245*)

up ladders and to do the rescue work. We have two fire stations with three firemen on each piece of apparatus. The first man to get off the first piece of apparatus to arrive at a fire, gets off at the fire hydrant, leaving two men to man the hose, ladders, etc., until the arrival of the second apparatus.

Harvey F. Peyton, Chief, Greenville, Tex.: I believe it is good practice to spread a life net when ladder rescues are being made. In this way, it may be possible to save a person should he fall while being rescued.

J. D. Miller, Chief, Borger, Tex.: Whoever does the designing of fire trucks seems to have the large city in mind. This country is in need of special light fire fighting equipment with a small pump and a large water tank. Ninety-five per cent of the fires here are handled with a booster tank, but in order to get a rate, we use a 750-gallon pump, making the equipment too heavy.

Albert Luedeke, Chief, Freeport, Ill.: We do not carry life nets due to the fact that we don't have sufficient men in our department to man them.

Sam Long, Chief, Ames, Ia.: We do not have any nets in our department as yet, but believe they are good things to have and are looking forward to the time when we'll have one.

* * *

The following reply is in answer to a previous question on the post-war value of military training.

J. J. Carey, Chief Sp. (F), Asst. to Officer in Charge of U. S. Navy Fire Fighting School, Portland Me.: When the fire instructors in the service return, there will be thousands going back to their respective fire departments with the knowledge acquired. These men will have more confidence and less fear of fire. They have received the benefits of the latest and most efficient training.

The millions of men who have been trained by these instructors will also be more fire minded and be able to detect and reduce many fire hazards.

Many of these men will be available, and should prove valuable assets to the undermanned fire departments throughout the country.

L. T. Dickinson, Boatswain's Mate, Fire Fighters Training Unit, U. S. Naval Training Station, San Diego, Cal.: It has been my fortunate experience to view this all-out fire program of the Navy Department first hand, in that I have been assigned to this particular unit since its commissioning. We handle and train hundreds of men daily by "indoctrination" into Naval fire fighting. I use the term "Naval" because our methods differ somewhat from most municipal fire fighting evolutions. This is due in a large degree to the very nature of the naval vessels themselves and the tremendous problem of ventilation when involved with fire, to say nothing of being constantly confronted with the all-important problems of stability, damage control and battle conditions that do not confront our fellow fire fighters "on the beach."

I don't intend to imply that our

WHEN FIRES GET TOUGH KIDDE EQUIPMENT GETS TOUGHER!

WHEN tough fires spring up—the fast-moving ones that break out in flammable liquids (Class B); the hard-to-get-at kind that start in electrical equipment (Class C)—the Kidde portable or hose reel system acts fast to knock them down—and *out*!

Ordinary water-type extinguishers can't control these tough fires. But the Kidde portable shoots out a cloud of carbon dioxide gas, forming a heavy blanket that smothers the flames. Then the dry, inert, non-toxic gas merely evaporates...leaving valuable liquids *uncontaminated*, electrical equipment *undamaged*. This Kidde method is recognized as one of the speediest, cleanest and safest fire-fighters in use today.

It's smart to check on tough fire areas in your own plant. Does the accompanying list of typical hazards suggest places that still need safeguarding? If it does, call in a Kidde representative—you'll find him wise when it comes to fire protection. Drop us a line.

Kidde Kills Tough Fires

PROCESS ROOMS
OVENS
SPREADERS
MOTORS
STORAGE ROOMS
MIXERS
COATERS
TRANSFORMERS
DIP TANKS
AGITATORS
WASHING TRAYS
CONTROL PANELS

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The word "Kidde" and the Kidde seal are trade-marks of Walter Kidde & Company, Inc.

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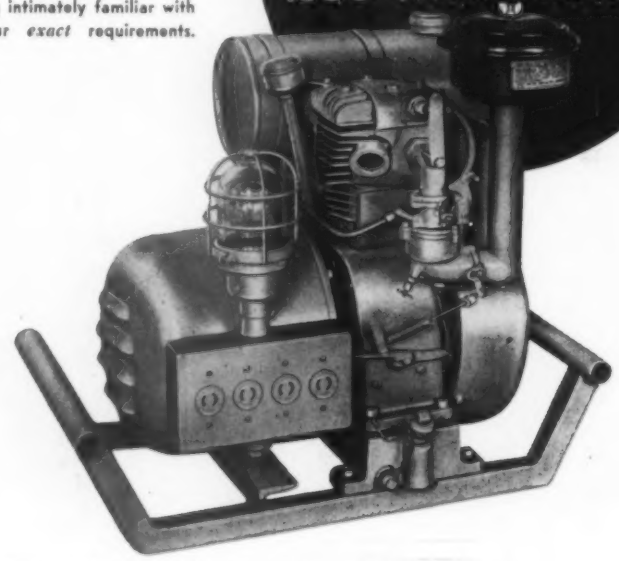
This new 1500-watt U. S. Portable meets your own specifications of what a fire department portable should be—because it is the result of our many years of experience building fire department units and becoming intimately familiar with your *exact* requirements.

New FIRE DEPT. 1500 WATT PORTABLE



★ Designed for *dependable* operation—a vital requirement for fire department service.
★ Automatic voltage regulation under all loads. No adjusting necessary.
★ 4-cycle air-cooled engine. 3.2 H.P.
★ Quick starting.
★ Positive splash system lubrication.
★ No fussing to mix oil and gasoline.
★ Carriers for easy portability.
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methods are superior. However, the training afforded is definitely so because of the enormous amount of equipment, personnel and material on hand to work with. No one municipality could possibly afford all this equipment. This program has attracted fire officers from many of our larger cities, and I'm not far wrong in saying that ninety percent of the personnel of this program are former civilian fire fighters.

Now then, the fundamental result of this training will be fire fighters by the thousands. Young men are fire conscious because of the everpresent hazards of their daily existence afloat, accentuated by the obvious intent for which the ships were constructed.

Fires, as a result of the hazards carried aboard, namely, high test gas, volatile oils, dry stores, various cargoes, flares, fuses and ready boxes for ammunition about the decks, bombs, torpedoes, etc., are difficult to combat because of the nature of the combustibles themselves, the manner in which they are stowed, and the very limited space in which to bring about effective fire fighting evolutions.

High winds and high seas, at times, will add their weight to making these attacking operations more difficult. Masks of an efficient, foolproof, nature are indicated, and it is the duty of all naval fire fighters to be thoroughly trained in their operation for the fighting efficiency of the ship. A vessel is no more formidable than the personnel that man her and the spirit of teamwork that prevails within. Such is true of any body of men functioning to achieve one common end—the defeat of the enemy, whether it be the Japanese or fire.

It is certainly reasonable to believe that these same men will make excellent material for all fire departments, and in my opinion, every effort should be made to add these names to fire department rosters.

Editor's note: Mr. Dickinson is a former member of the Evanston, Ill., Fire Department.

Fire Truck Cut in Two by Train

In responding to a call to Box 43, Mechanicville, N. Y., one fireman was killed and three others injured when the E. H. Strang Hose Co. truck in which they were riding was cut in two by a Delaware and Hudson passenger train at the Broadway crossing at 2:56 a.m., Sunday morning, February 25, 1945.

The dead man is Felix D'Avignon, 43, member of the D. E. LaDow Steamer Co. of Mechanicville, who ironically enough was employed by the D. & H.

Two of the injured, Alfred N. Wendell and Walter B. Curtis are in the Leonard Hospital, the first named is suffering from a fracture at the base of the brain and a fractured jaw. Curtis, a hoseman, less seriously hurt, was standing on the running board beside the front seat when the accident occurred.

The third fireman, Walter Ellsworth escaped serious injuries. All were volunteers, members of E. H. Strang Hose Co. responding to a call to a small blaze, caused by an overheated furnace, which was extinguished with a garden hose. D'Avignon, who lives near the Strang firehouse was following his usual

Wartime Life Guards

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Soon industry will benefit from experience gained by Scott engineers in designing and building such life-guarding apparatus. Yes, soon portable breathing equipment—embodying Scott reliability—will be available for peace-time protection wherever the need for *complete* respiratory protection is imperative.

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FOR TOMORROW'S SAFETY

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Maintenance of gas storage tanks will be easier and more economical with workmen

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custom of riding to the fire with the Strang truck, where he then joined the LaDow Steamer Co.

The truck was cut in two. Frame and engine lay on one side of the track, the hose box and ladder were on the other. The wreckage was strewn over a wide area.

Only a few weeks ago the E. H. Strang Hose Co. requested the Mechaniville City Council to purchase a new truck to replace the one that was in the accident.

W. F. MESSENGER.

International Launches Membership Drive

The International Association of Fire Chiefs has inaugurated an enterprising membership campaign, under the direction of the Association's Manufacturers' Advisory Committee, Fred Philbrick, Chairman.

The program, most enterprising to be waged by the Association, is the combined product of the sales and advertising managers of the Manufacturer's Member Committee, established a year ago to consult with the officers of the organization. Every form of advertising medium will be employed, including space in representative fire service and municipal journals, direct-by-mail literature, posters, radio and motion pictures.

Regional and district representatives of the fire apparatus and equipment companies are actively cooperating and membership blanks may be secured from them, or the I.A.F.C. Headquarters Office, 24 W. 40th Street 18, New York, N. Y.

February Fire Losses

Estimated fire losses in the United States during February were $41,457,000, an increase of $3,177,000 or eight per cent over losses of $38,280,000 during February, 1944, it was announced recently by W. E. Mallalieu, General Manager of the National Board of Fire Underwriters. The estimates are based upon incurred losses reported to the Board by member companies, plus an allowance for unreported and uninsured losses.

The February losses were seven per cent less than losses of $44,865,000 reported in January of this year. Losses in the twelve months period ending February 28, 1945, amounted to $433,008,000 as compared with $396,179,000 for the similar period ending with February, 1944.

Western Pa. School to Be Held

The School Committee of the Western Pennsylvania Firemen's Training Institute announces that the 1945 Firemen's Training School will be held at the State Teacher's College, California, Pennsylvania, September 3 to 1 inclusive. Both day and night sessions will be conducted. The registration fee is $1.00.

The school is sponsored by the South-Western Pennsylvania Fire Chiefs Assn., under the direction of the Pennsylvania Department of Public Instruction. The Secretary-Treasurer of the Institute is Henry Neill, Box 83, Vestaburg, Penn.

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FLAMEBUSTER permits application of water in the form best suited for quick control, according to the nature of the fire —

1. **Low Velocity Spray** . . . for extinguishing stubborn fires in light, flammable liquids. Projected at a wide angle by the unique Grinnell spray tip on a 4′ or 10′ applicator. The spreading cone of evenly distributed, fine spray, applied directly over blaze, puts out flames quickly, with minimum water consumption.
2. **High Velocity Spray** . . . for general fire fighting and for extinguishing fires in heavier oils by emulsifying the blazing oil with a driving spray of water, rendering it incapable of burning. Protects fireman approaching blaze.
3. **Solid Stream** . . . for rooting out deep seated fires and for projecting a volume of water a considerable distance. For fighting fires in electrical apparatus, a long-range, non-conducting spray is substituted for the solid stream.

Complete information is available without obligation. Write to Grinnell Company, Inc., Executive Offices, Providence 1, R. I. Branch offices in principal cities.

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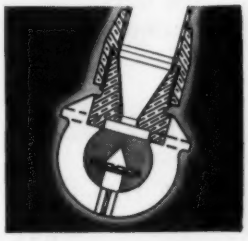
FLAMEBUSTER'S ADVANCED DESIGN

prevents clogging - simplifies maintenance

SINGLE LARGE ORIFICE IN LOW VELOCITY TIP

on end of the applicator breaks down the free flowing stream into finely divided spray without the use of small orifices – eliminates clogging.



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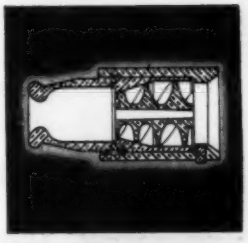
Generates high velocity spray by a proved "whirl" principle that eliminates the disadvantages of small orifices.



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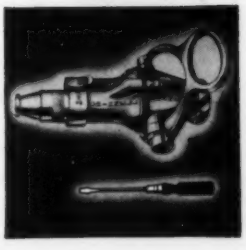

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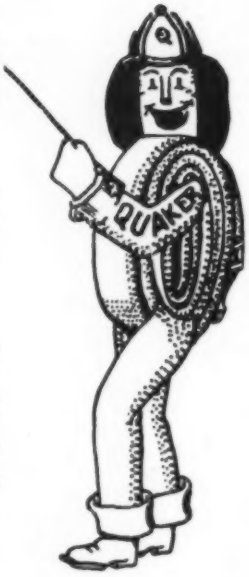
For highly developed fighting qualities specify "Quaker Fire Hose". It will take high pressure and hard usage.

Flexible, easy to handle in action, coils readily. When action at a fire reaches fever heat, that is when you can count on the dependability of Quaker Fire Hose.

Have real fire protection. . . . Insist on Quaker.



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What's Burning

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of March, 1945. These figures, compiled from the telegraphic reports, are based on estimates made at the time and are subject to later investigation and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent losses in thousands of dollars.

Month Ending March 31:	Losses in Thousands of Dollars
Quebec, Que.—Brunet drugstore damaged.	80
Cordova, Alaska—Shephard Point Packing Co. destroyed	200
Whiting, Ind.—Gasoline absorption bldg. of Standard Oil Co. plant damaged	50
Fruitland, Md.—Three food storage houses at John H. Dulany & Son plant destroyed. Storage houses owned by Defense Plant Corp.	80
Somerville, Mass.—City incinerator bldg. destroyed	50
Lowell, Mass.—O'Dowd block occupied by skating rink and bowling alleys damaged	50
L'Original, Que.—Garage of Betrand & Freres damaged	50
Millvale, Pa. — Eugene Madden Funeral Home; bldg. and barber shop of Anthony Voit and Alfred Feidt; restaurant of I. J. Herbst damaged	50
Vancouver, Wash. — Metropolitan Dept. Store destroyed	125
Hammond, Ind.—Chapman Laundry, Inc., and 13 trucks destroyed	80
Berlin, Md.—The Cross-Roads Auto Service, a garage, repair shop, and storehouse for auto parts, destroyed	75
Lawrenceburg, Tenn.—Jitney Jungle Grocery, McGee's Market and Langley's Second Hand Store, destroyed	50
Fredericksburg, Va. — Bldg. occupied by Young Men's Shop, a haberdashery, destroyed; adj. Beck Furniture Corp. and Crismond's Shoe Store damaged	55
Monson, Mass.—Keeley block occupied by First Natl. store, Maynard's market, A. H. Phillips store, dental offices of Dr. Harvey O. Dazey, Monson Visiting Nurse Assn. and two apts. destroyed	60
Newark, N. J.—Blackburn Products, Inc. damaged	170
Norfolk, Va.—South Atlantic Marine Basin at Great Bridge, including dredging equipment	50
San Antonio, Tex.—Warehouse used for storage by Bull-Stewart Equip. Co. and Southern Pecan Shelling Co. destroyed.	225
Seattle, Wash.—Hitt Fireworks Co. destroyed	80
Ashland, Ohio—Bldg. occupied by J. J. Newberry Co. dept. store destroyed	60
Knoxville, Tenn.—Cumberland Hotel destroyed	200
Edmonton, Alta.—Edmonton Garage damaged	150
Knoxville, Tenn. — Oakwood School destroyed	50
Los Angeles, Cal.—Plant of DBA Shuken Bag Co. destroyed	50
Lawrenceburg, Ind.—Bldgs. occupied by the Lawrenceburg Register, the Knights of Pythias Lodge, and an apt., destroyed	170
Scottsbluff, Neb.—Egyptian Theatre destroyed	150
Vancouver, B. C.—S. S. Greenhill Park, 10,000 ton vessel, destroyed	1300
Los Angeles, Cal.—Shell Oil Co. high octane refining plant damaged	60
Ft. Riley, Kans.—Stone bldg., adj. Ft. Riley hdqts, destroyed	200
Independence, Ia.—Bldg. occupied by Gedney Hotel, Grand Theatre, State Liquor Store, Western Union office, Gedney tavern, American Railway Express office, barber shop, doctor's office destroyed	250
Guelph, Ont.—Bell Piano Bldg., Canadian Legion hdqts. and several other business establishments, destroyed	170
New Bedford, Mass.—Mullins fishing gear bldg., waterfront pier, destroyed	50
Worcester, Mass.—Press bldg. damaged; Lido cafe in bldg. and adj. Pearl Hotel, damaged	50
Grand Rapids, Mich.—Grand Rapids Furniture Co. plant damaged	80

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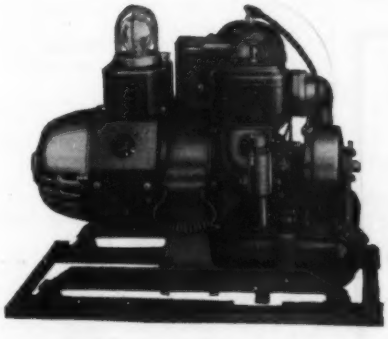
Only 100 pounds complete, a Homelite Gasoline-Engine-Driven Generator has the power to furnish plenty of electric power . . . 2000 watts . . . enough to operate brilliant floodlights so necessary for safety and efficiency on night fires. *



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FIRE Departments: The simplicity and economy of the BUCKEYE Expander increases your efficiency. With a simple change of segments, only one BUCKEYE Expander is necessary for hose sizes from ¾" to 3" inclusive. By turning the handle in the opposite direction, you automatically release segments so that hose and coupling can be removed without any damage. BUCKEYE—it's just the Expander you've been looking for!
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Pittsburgh, Tex.—Potato dehydrating plant of the Gilbert C. Wilson Laboratories, destroyed 125

Leroy, N. Y.—Two business blocks on Main Street, including two grocery stores, two restaurants, a drug store, a bowling alley and a liquor store. Partially damaged were a dept. store, the Pavilion Natural Gas Co.'s Office, a clothing store, and a news room. Partially destroyed also were the offices of the Grange League Federation and Selective Service Board No. 575 500

Zanesville, Ohio—Bailey Bldg. occupied by Huffman's restaurant and others destroyed 80

Meridian, Miss.—Service Club, Key Field, destroyed 75

Vineland, N. J.—Main plant of Specialty Glass Co., seven miles north, destroyed.. 200

Buffalo, N. Y.—City Ice & Fuel Co. bldg., damaged 125

Syracuse, N. Y.—Giminski Furniture Co., destroyed 80

Lockport, N. Y.—The Plymouth Congregational Church damaged..... 80

Winnipeg, Man.—Robinson-Webber warehouse damaged 80

Belleville, Ont.—Royal Canadian Air Force Training School, Mohawk Airport, damaged 55

Delhi, N. Y.—Middletown Creameries Co. plant destroyed 125

Ooltewah, Tenn.—Corning mill bldg. and press mill bldg. at Atlas Powder plant destroyed 50

Onalaska, Wis.—Outers' Laboratory, gun cleaning and oiling equipment for the Army and Navy, destroyed..... 115

Toronto, Ont.—Allanson Armature Mfg. Co. plant damaged..... 50

Kokomo, Ind.—Ice and coal plant of J. M. Leach Mfg. Co. damaged..... 60

Zwolle, La.—Planing mill of Mansfield Hardwood Lumber Co. destroyed..... 50

Ashuelot, N. H.—Robertson Paper Co. damaged 60

Phoenix, Ariz.—Storage plant of Richfield Oil Co. destroyed..... 80

Bay City, Mich.—Five tanks containing 20,000 gallons of fuel oil or kerosene at Pure Oil Co. tank farm destroyed..... 60

Asheville, N. C.—Charles Department store destroyed 80

Newark, N. J.—Two story brick bldg. and plant of Goldhill Tanning Corp. of Newark virtually destroyed by explosion.... 450

Urbana, Ohio—Storage bldg. of Crow Hybrid Seed Co. half mile south destroyed.. 80

Jackson, Miss.—Valley Mills Co. destroyed 425

Norridgewock, Me.—Norridgewock Consolidated School destroyed..... 50

Canfield, Ohio—Barn on farm of Dr. Clem R. Stambaugh, one mile west, destroyed 125

Zanesville, Ohio—Storage plant of Pure Oil Co., containing 100,000 gallons of gasoline and kerosene destroyed..... 80

News of the Manufacturers

Captain Babcock with Pyrene Manufacturing Co.

Captain William Paul Babcock of Nyack, N. Y., recently became affiliated with the Pyrene Manufacturing and C-O-Two Fire Equipment Company.

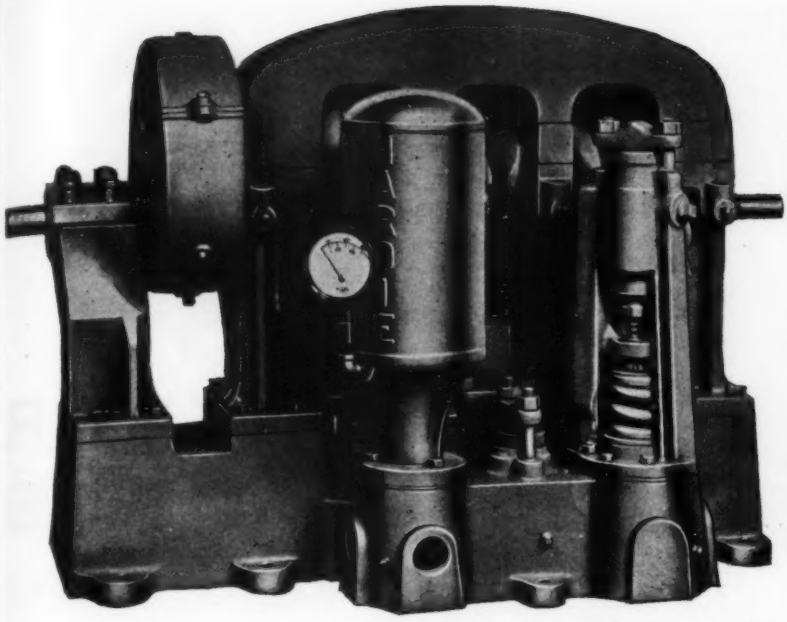
Captain Babcock was one of the founders of the first volunteer salvage company organized in the United States, and for many years conducted "The Cover," a column for salvagemen, in FIRE ENGINEERING.

He pioneered the sale of carbon dioxide fire equipment in the Hudson River Valley twelve years and has been active in that field ever since.

Youngstown Miller Company Acquired by Walter Kidde

Walter Kidde & Company, Inc., of Belleville, N. J., announce that as of January 10, 1945, they have purchased the capital stock of the Youngstown Miller Company, Inc., formerly of Sandusky, Ohio, manufacturers of plastic coaters and oil reclaimers.

Orders will continue to be filled under the direction of F. L. Gerin, who becomes Vice President and General Man-



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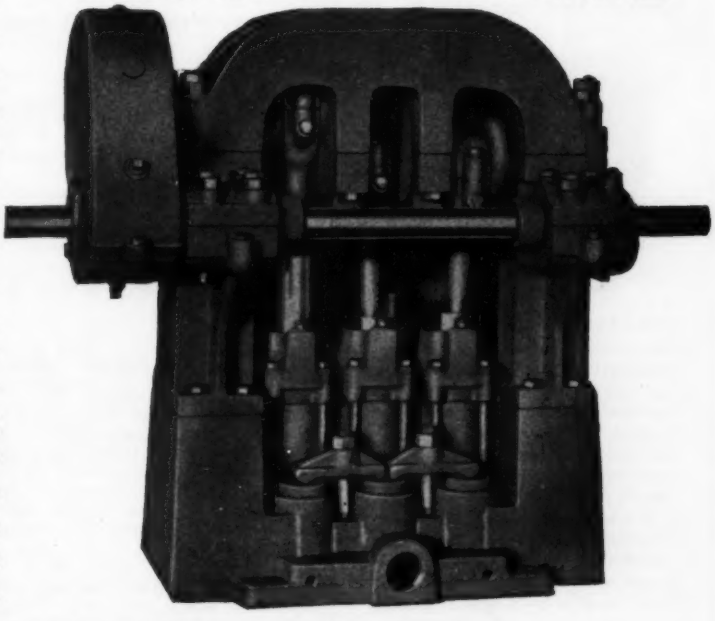
Above—Hardie Imperial Model LCXA Pump, 60 gallons per minute at 800 P. S. I. at 130 R. P. M. *Below*—Hardie Imperial Model XCXX Pump, 35 gallons per minute at 800 P.S.I. at 118 R.P.M.



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This means greater dependability, longer life, less trouble and less power requirement. You get 800 P.S.I. without speeding your pump and for long sustained periods without excessive wear on operating parts. Specify a Hardie pump and a Hardie Fog Gun when you buy your new Fog Fire Fighter or convert an old unit into one.

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AN INVALUABLE OUTFIT FOR FIRE DEPARTMENT USE

Wearing Unit light in weight, easily adjusted, very convenient to use

KEROTEST Emergency Cutting equipment enables you to cut away steel barriers in a few minutes . . . to get to the source of a fire quickly . . . to make a rescue that by any other method of cutting steel would require hours of time. Enthusiastically approved by the country's leading Fire Chiefs.

The entire unit is self-contained, complete with pressure proved cylinders, regulators, hose and non-back-fire cutting torch all comfortably mounted on a special padded vest, ready at an instant's notice.

The wearer's legs, arms and hands are entirely free at all times, as all parts of the Emergency Cutting Apparatus are strapped close to the body. Firemen can climb ladders and work in very close quarters without the slightest inconvenience.

KEROTEST MANUFACTURING COMPANY

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ager. Other officers of the new subsidiary of Walter Kidde & Company, Inc., will be John F. Kidde, President; Harold A. Cartier, Vice-President; G. Crosby Hiss, Secretary and William Deyerberg, Treasurer and Comptroller. R. E. Strobel will continue as Sales Manager for the Youngstown Miller products.

The main office of the Youngstown Miller Company will be located at 675 Main Street, Belleville, N. J.

New Chemical Association Officers

The Chemical Fire Extinguisher Association, at its March 1945 meeting held in Chicago re-elected the following officers: President, Arthur G. Sullivan, Vice president, Buffalo Fire Appliance Corp., Buffalo, N. Y.; Vice president, J. O. Binford, General sales manager, American La France-Foamite Corp., Elmira, N. Y.; Treasurer, Herman W. Diener, Secretary, George W. Diener Manufacturing Co., Chicago, Ill. and Commissioner, W. J. Parker, W. J. Parker, Inc., New York City.

Directors re-elected at the meeting were George H. Boucher, General sales manager, Pyrene Manufacturing Co., Newark, N. J.; and E. A. Warren, Vice president, General Detroit Corp., Detroit, Mich.

Harvey-Wells Awarded Army-Navy "E"

At presentation ceremonies on January 16 the employees and management of Harvey-Wells Electronics, Inc., of Southbridge, Mass., were awarded the Army-Navy "E" for outstanding production of war materials.

Manufacturers of communications equipment, safety devices, aids to navigation, radar equipment and allied material for the armed forces, the war record of Harvey-Wells was cited as "inspiring" by Secretary of the Navy James Forrestal.

General Detroit Folders

"Your Fire Insurance Policy" is the name of a 12-page folder issued by the General Detroit Corp., Detroit, Mich. to describe and illustrate "the seven basic types of fire extinguishers in everyday use." Information is given concerning the classes of fire which each extinguisher is designed to combat most effectively.

Another mail piece issued by this company is entitled "So Swift, So Safe, So Sure" and is devoted to discussion of the uses and features of General's vaporizing liquid type extinguisher. This folder contains an interesting "cut-away" illustration of part of the interior construction of this type of device.

Both pieces are colorful, attractively illustrated and informative.

Welders Service Company Issues Booklet

A ten-page booklet giving operation and maintenance instructions for their pack-type oxy-acetylene emergency cutting outfit has been issued by the Welders Service Company, Inc., 210 Boulevard of the Allies, Pittsburgh, Pa.

Copies of this well illustrated booklet may be obtained from the company.

BETTER BADGES

than you ever got before—

For the past 64 years we have supplied the fire fighters of America with the finest badges they have ever worn.

Now—because of the government's prohibition of the use of nickel, brass, copper, nickel plating, and chromium — we are making these badges and insignia in sterling silver, sterling silver gold plated, rolled gold on sterling silver, and 14 karat gold.

Today — for just a little more, you get a sterling silver Braxmar Badge — without doubt the best badge you can buy anywhere.

Recommend Braxmar to all your fellow fire fighters and wear one yourself.

★

The blue covered catalog is the latest published but write for our new price list effective July 29, 1943. Only prices in the catalog on 14 karat gold items are still in effect. All auto plates are discontinued for the duration.

★

C. G. Braxmar Co., 242 W. 55th St., N. Y.

John O. Veit, Pres.

BRAXMAR BADGES

Standard for over 64 years

The Source?–The SEA!

From the sea comes the special derivative which mainly is responsible for the super-effectiveness of MEARLFOAM-5, the war-born, blended multi-protein foaming agent for highspeed extinction of gasoline, oil and other serious fires.

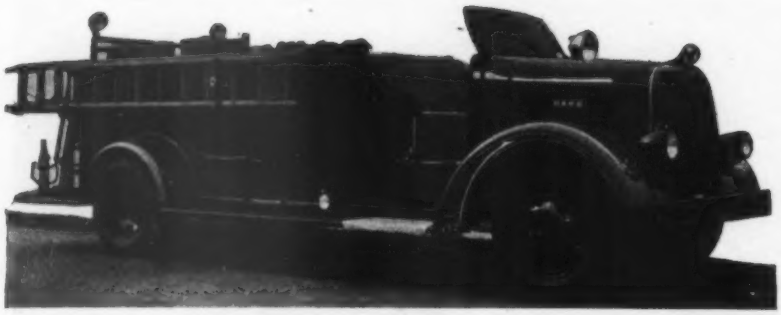
We were able to isolate and develop its unique properties because we have been manufacturers of marine by-products since 1917, and the sea has been the source of many of our highly successful material ingredients.

MEARLFOAM-5 yields the live, lasting foam with the tough, elastic water-retaining film. The U. S. Navy uses this effective multi-protein foam extensively for preparedness—and for quickly extinguishing fires on shipboard and at shore bases. When split-seconds count — you can rely on MEARLFOAM-5 to put fire out fast—keep fire out, *permanently!*

Completely safe and non-corrosive — may be used with standard Mechanical Foam-Forming Equipment

FOAM ON FIRE OUT... Stays OUT!

THE MEARL CORPORATION
153 Waverly Place, New York 14, N.Y.



"HAHN" FIRE APPARATUS
SINCE 1907

FINEST IN THE WORLD * STREAMLINED * BALANCED CHASSIS * AMPLY POWERED * VERY EFFICIENT PUMPS WITH PLENTY IN RESERVE

HAHN MOTORS, Inc.
HAMBURG, PA.

CRACKERJACK FIRE HOSE

DEPENDABLE FIRE HOSE SINCE 1907
Above all, fire hose must possess durability and strength. Over the years, Crackerjack Fire Hose has consistently met these tests of quality.
Specify Crackerjack, the fire hose you can always depend on!

The AMERICAN RUBBER Mfg. Co.
Park Avenue and Watts Street • Oakland, Calif.

Donald Glessner With Powhatan

Effective March 1, 1945, Donald P. Glessner of Wooster, Ohio, has accepted a position as superintendent of the Powhatan Brass and Iron Works, Ranson, W. Va., it was announced by C. F. Reininger, Vice president and general manager.

Mr. Glessner has served in a similar capacity with the Akron Brass Co., Wooster, Ohio, and also as an engineer. The Powhatan Brass and Iron Works are manufacturers of fire protection fittings, the company dating back 50 years in the same community. According to announcements by Mr. Reininger the business has grown rapidly and it is expected that many new products will be developed.

Prints of Drawing Made Available by D. B. Smith & Co.

D. B. Smith & Co. of Utica, New York, have had drawn by a former artist of the Walt Disney Studios an appealing illustration in full color of an Indian boy with his Indian Fire Pump. So many requests have been received for this drawing that a limited supply has been produced on a highly glossed paper, 11 by 12½ inches in size, without advertising and suitable for framing. Copies will be sent on request.

Four Millionth Gallon of Aerofoam Produced

National Foam System, Inc., of Philadelphia, Pa., has just produced its four millionth gallon of Aerofoam liquid for extinguishing fire, with ninety-eight percent of it having gone direct to the armed forces, Fisher L. Boyd, company president, announced recently.

The U. S. Navy, for which approximately ninety per cent of the fire fighting form was produced, calls the liquid "bean soup." When the liquid is mixed with salt or fresh water and air by means of a special nozzle developed by the company, a thick, clinging, smothering blanket of airfoam gushes forth to snuff out fires and effectively prevents flashbacks.

After the war it will be available for municipal and industrial fire fighting.

North Jersey Mutual Aid Progressing

The recently organized North Jersey Fire Officers Association, latest of the New Jersey groups to develop mutual aid systems along the lines of the Westchester County Plan, held its monthly meeting at Hillsdale Fire Department headquarters, March 22, with about ninety fire chiefs, commissioners and other officials in attendance. Hillsdale Host Fire Chief was Francis Wahlen; Chief Herbert Hopper, president, presided. Other officers of the organization are: Lieutenant George Zink, vice president; Chief William Richardson, treasurer; Assistant Chief Samuel Braen, financial secretary; Ex-Assistant Chief Eugene H. Spender, recording secretary.

Reports were heard from Chief Fred Hazencamp, Hawthorne, N. J., chairman Education Committee; Captain Morton Husby, Wyckoff, Ways and Means Committee, and Captain Edward Bender, Fair Lawn, Auditing Committee.

Ridiculous, but it keeps happening—That's one reason why Fire Departments *NEED RADIO!*

Fire department officials in every city have continual trouble with false alarms and misinformation.

Absurd, yet typical, is the case of the woman who telephoned that her house was afire, yet in her excitement gave her sister's address instead of her own. So an engine company and ladder truck roared up to her sister's door—miles away from the fire.

The fire department got to the right address eventually, of course...but the fire gained headway, and time and money were lost.

RCA 2-Way Radio would have made it easy to recall the misdirected fire apparatus *immediately*.

Progressive fire department officials know they need radio. City councils should see to it that they *have* radio.

Plan now an efficient RCA 2-Way Radio System for postwar installation that will help your department give your community the best possible fire protection. RCA will help you plan it...*and help you sell the idea to your city council.*

BUY MORE WAR BONDS

RADIO CORPORATION OF AMERICA

RCA VICTOR DIVISION • CAMDEN, N. J.

In Canada, RCA VICTOR COMPANY LIMITED, Montreal

THE NEW

SAW-GUN

SHOULD BE STANDARD

ON ALL

FIRE-FIGHTING EQUIPMENT

Here's Why..!

The Saw-Gun is a portable power-saw that will quickly cut into all metals, wood and other materials. Quickly attaches to any electric or air drill, and may also be propelled by a flexible shaft. Insert ordinary hack-saw blade for cutting.

Firemen equipped with this handy tool can now get at the fire quickly. Can cut openings into obstructions regardless of their material. Cuts rapidly through heavy gauge steel. No need to waste precious time removing steel gratings . . . cut them out of the way with this amazing portable tool. Does away with slow, cumbersome, dangerous gas cutting torches, together with their long lines of hose and heavy tanks.

Progressive fire-chiefs who know the importance of getting at a fire *fast*—who want a quicker means of getting to entrapped persons, will add the Saw-Gun as standard equipment.

ONLY $42.00

QUICK SHIPMENTS ON AA-5 PRIORITY OR HIGHER

Sold on Money-Back Guarantee

SEE YOUR JOBBER or WRITE DIRECT

Mid-States EQUIPMENT COMPANY

Saw-Gun Division

2419 S. MICHIGAN AVE., CHICAGO 16, ILL.

Classified Advertisements

WANTED

Fire Equipment Supply Companies, to sell Morning Pride Protected Rubber Firecoats, with Wind Sleeves, Chest Protector, Face Protecting Collar, Wool Wristlets, Double Shoulders, No Dirt Pockets. Also Firepants and Mitts. Write Morning Pride Mfg. Co., 1986 Home Ave., Dayton 7 Ohio.

CHIMNEY POWDER

No need to send men on the roof for chimney fires. Haa-Mor Soot Destroyer not only puts the fire out, it continues to work until it cleans the chimney, making it unnecessary to go back to another chimney fire. Put up in handy packages. Agents wanted. Harry S. Morgan, 52 Broad St., Johnson City, N. Y.

AGENTS WANTED

Agents wanted to sell SOS Automatic Glass Ball Fire Extinguishers. Thousands sold. Good proposition. Write

Schwartz Bros., Inc. (Dept. A)
731-33 Filbert Street
Philadelphia, 6, Pa.

FOR SALE

Fog Nozzles and Applicators Used Only for Demonstrations Offered at Low Prices

Fog Nozzles, $22.50 each; regular price, $45.00.
10 ft. Applicators, $6.75 each; regular price, $12.50.
Also Hose Reducers, 2½" x 1½", $2.50 each; regular price, $3.75.
Foam Generator Powder, 9 cents lb.; regular price 17c lb.
Foam Liquid, $2.50 gal.; regular price, $5.00 gal.
5 Gal Jeep Gasoline Can, $2.50.
Above, made to Government specifications, sent on approval.

Gorham Fire Equipment Co.,
356 Atlantic Ave.,
Boston 10, Mass.

WANTED

Items to Sell to Fire Departments

Established firm, covering the States of Georgia and Florida, desires additional items to sell to fire departments and industrial plants for fire protection, either as Manufacturers' Agents or as Distributors.
Address: P. O. Box 491, Jacksonville 1, Florida.

FOR SALE

Model 600 Watt, 115 Volt D.C. Security Portable Generating Plant, Gasoline Engine, equipped with two plug receptacle, 2-250, 1-150 Watt Economy Floodlight Projectors, 3-50 ft lengths of No. 16 Extension Cord, total weight 125 lbs. delivery about 4 weeks. Security Fire Equipment Co., 1550 Princeton Ave., Trenton, N. J.

FOR SALE

One American-LaFrance City Service Truck, Type 14.
If interested, write for detail information and photograph. Truck can be seen at Herkimer Fire Department.

Fire Chief Harry A. Vincent,
Herkimer, N. Y.

POSITION WANTED

Fire Chief, now employed in government service, desires connection with municipal fire department in an official capacity. Has 15 years fire experience, 5 years as Fire Chief of large fire organization. Married. Member of I.A.F.C. Address Box No. 15, c/o FIRE ENGINEERING, 24 W. 40th St., New York 18, N. Y.

M&H

HYDRANTS

VALVES

and

Pipe Line

Accessories

A. W. W. A. HYDRANTS *Underwriters Approved*

Conform to American Water Works Association specifications. Approved and listed by Underwriters' Laboratories and Associated Factory Mutuals. Well known and widely used for many years.

SPECIAL TRAFFIC MODEL (shown at right) is designed to yield at ground line under impact, repair being simply renewal of breakable bolts and breakable coupling on stem. Dry top, revolving head, easy to lubricate. High efficiency because barrel diameter not reduced and there are no working parts or obstructions in waterway.

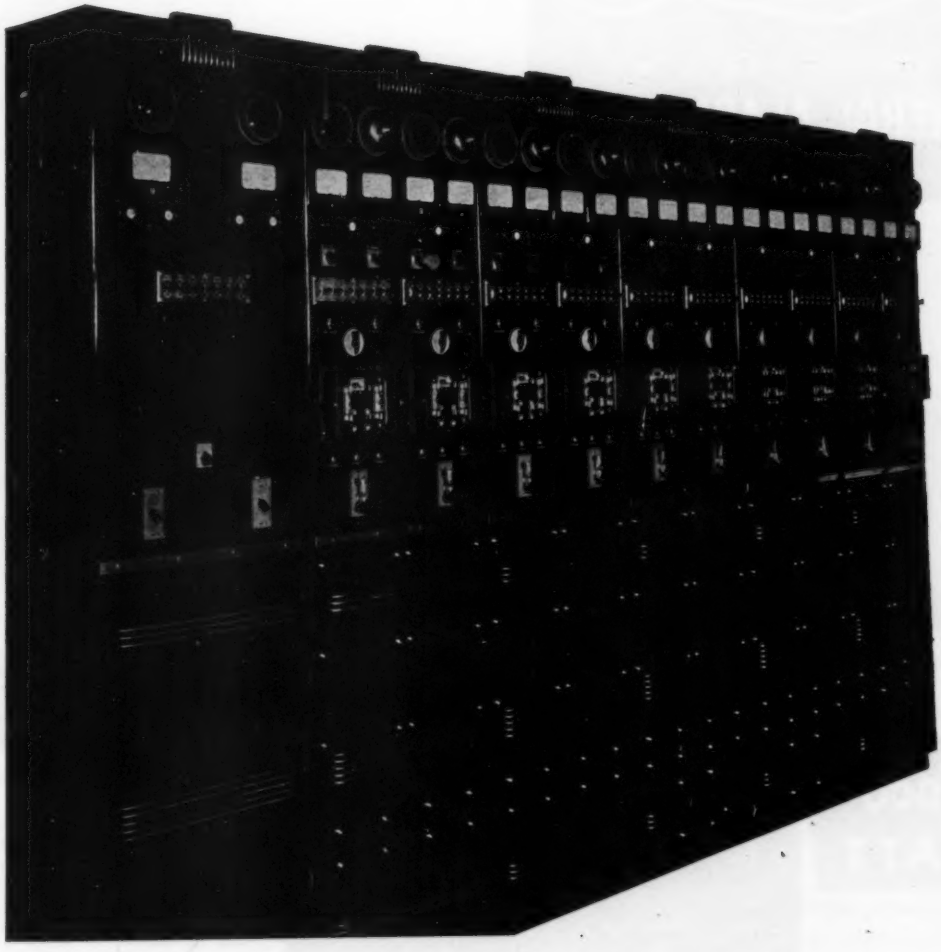
VALVES: A. W. W. A. types, iron body, bronze mounted with double-disc parallel seat or solid wedge type. Non-rising stem, outside screw and yoke; or with sliding stem and lever. Also furnished hydraulically operated. Square Bottom type operates in any position. All are rugged and dependable, made of best material with highest quality workmanship.

M&H VALVE AND FITTINGS COMPANY

ANNISTON, ALABAMA

New Type Class A-B-C Fire Alarm Telegraph Switchboards

Supplied in Sectional Panels of Two Circuits Each



A COMPLETE FIRE ALARM TELEGRAPH CENTRAL OFFICE

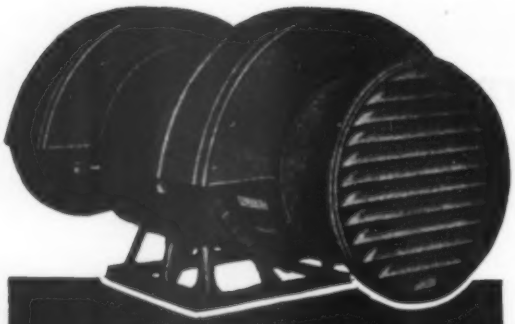
MANUFACTURED BY

Southern Switch and Signal Company

"There Is No Substitute for Experience"

Shreveport, Louisiana

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers*



STERLING MODEL "M"

GENERAL ALARM SIREN

You Can Depend On It ALWAYS

An absolutely dependable, tried and proven siren for communities of all sizes. Loud, clear, simple to instal and no maintenance to bother with. Embodying the "know how" of the oldest and largest makers of siren signals in the fire field. Write for descriptive literature and list of towns using the model "M".

ALSO
manufacturers of a complete line of apparatus sirens.
Write for literature.

STERLING SIREN FIRE ALARM CO., Inc.
55 Allen Street Rochester, New York

New
2000
WATT

PORTABLE — GENERATING PLANT

Designed to produce the maximum output per pound weight, plant is particularly suitable where portability is a factor.
Meets the standards of the aircraft service. Over 100,000 are now in use in the armed forces.
Truly a heavy duty, high capacity, lightweight, sturdy, streamlined, compact and portable plant. Will stand the most severe operating conditions.
A complete line of floodlight projectors, extension cords, live circuit reels and receptacle boxes.

Write now for complete details.

Security FIRE EQUIPMENT CO. 1550 PRINCETON AVENUE TRENTON, N. J.

Classified Advertisements

NOTICE OF PUBLIC SALE

Please take notice that the undersigned will offer for sale at Public Auction to the highest bidder, under the direction of the Chief of the Ithaca Fire Department, at Central Fire Headquarters, 210 E. Seneca St., Ithaca, New York,—on the 26th day of May 1945 at 11:00 A.M.—one American-LaFrance, 75 foot aerial truck and equipment.

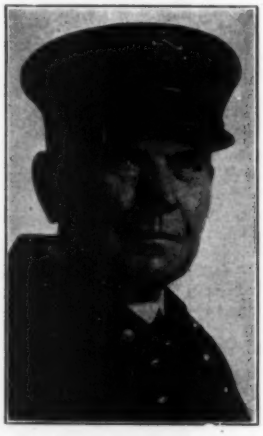
Truck may be inspected at Central Fire Headquarters, Ithaca, N. Y. by appointment with the Chief of the Fire Department.

Terms and equipment upon request.

BOARD OF FIRE COMMISSIONERS,
ITHACA, N. Y.

George M. Kellogg Dead

George M. Kellogg, 84, the oldest active fire chief in the United States before his retirement in 1939 and the only president emeritus of the International Association of Fire Chiefs, died March 15 following a heart attack while attending the annual dinner meeting of the Elks Past Exalted Rulers Club at the Elks Club rooms, Sioux City, Iowa.



Chief George M. Kellogg

Former Chief Kellogg served on the Sioux City Fire Department more than 55 years and was chief almost 51 years when he retired on November 15, 1939. He was president of the International Association of Fire Chiefs in 1907. He was a native of Iowa and was born January 26, 1861, at Farley. He moved to Sioux City in 1863.

Surviving him are a son, George, Jr., of Chicago; a brother, O. J. Kellogg of Sioux City; three sisters, Mrs. A. E. Line of Sioux City; Mrs. Priscilla Nangle of Seattle, Wash., and Mrs. E. O. Lent of Van Nuys, Cal., and two grandchildren. His wife, Mary E. Kellogg died in 1923.

Chief Kellogg began his career in 1882 as a volunteer fireman. Seven years later he was made chief of the department. He was later affectionately referred to by friends as the "Charley Paddock" of the "80's" for his speedy response to alarms. His career was brilliant and attracted nationwide attention. In 1932 he was voted a life member of the Missouri Valley Fire Chiefs Association; in 1938 at the annual convention of the International Association of Fire Chiefs at New Orleans, Chief Kellogg

fire Chiefs...

WHEN BUYING NEW MOTORS— TALK ABOUT THE *Torque*

One of the four pieces of fire apparatus built by Peter Pirsch & Sons Co., now owned and operated by the Oakland Fire Department, all powered by Hall-Scott Series 400 engines.

It's fine to hear a motor "purr like a kitten" — but more important to you as a Fire Chief are LONG LIFE, LOW UPKEEP and POWER — and TORQUE is the real yardstick for all of them!

With their maximum torque developed at 1300 R.P.M. and full rated power at 2000 R.P.M., Hall-Scott series "400" engines (Models 470-480-400) offer the following specific advantages: (1) Superior acceleration after stops and on hills. (2) "Extras" in length of service — lower R.P.M. mean longer life. (3) Greater economy from lower maintenance.

Add the very vital advantage of the Hall-Scott unit assembly design. While a part is at the bench for servicing or a checkup, a "mate" can be quickly installed and the Hall-Scott can be out on the job. And if you're re-equipping, remember that compact Hall-Scotts fit under most present hoods.

HALL-SCOTT *Motor Car Company*

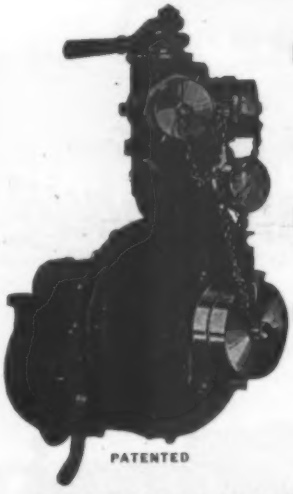
Division of ACF — BRILL MOTORS COMPANY
Factory and General Offices: 2850 SEVENTH STREET, BERKELEY 2, CALIF.
Factory Branches: SEATTLE, WASH. • LOS ANGELES, CALIF. • NEW YORK CITY

Barton Front Mounted

AMERICAN-MARSH PUMPS

Barton-American Midship

FIRE APPARATUS
CENTRIFUGAL PUMPS



PATENTED

FRONT MOUNTED FOR EASE OF OPERATION

AUTOMATIC VACUUM PRIMER

HIGH PRESSURE AT LOW ENGINE SPEED

BOOSTER TANK OPERATION WITH TRUCK IN MOTION

Offered in capacities from 250 to 600 G.P.M.

AMERICAN-MARSH PUMPS, INC.

Battle Creek, Michigan, U. S. A.

START THE RED LINE DOWN . . .

Just as it did in World War I, the ominous red line of Fire Losses in the United States has climbed again until it has reached the tremendous total for 1944 of $409,000,000. Unless every city, town and community joins in a concerted effort to stop it, our fire losses will again cross the half-billion mark.

The vast majority of lost time and material in this record of fire loss is a direct blow at our War Effort.

Write today for up-to-date information on Hale Fire Pumps—built in all Standard Capacities.

HALE
FIRE PUMP COMPANY
Conshohocken, Pa.

was named president emeritus of the association, when it was revealed that he was the oldest fire chief in the country in years of service.

Chief Kellogg celebrated his golden anniversary as chief of the Sioux City Fire Department March 17 and 18, 1939, with several hundred fire chiefs from every state in the union in attendance. His fraternal affiliations included Tyrian Lodge, F. & A. M.; Sioux City Consistory 5; Abu Bekr Shrine Temple; Order of the Eastern Star; Western Star Lodge, 288 I. O. O. F.; Sioux City encampment 44; the Canton Sioux 18, uniformed rank of the I. O. O. F.; Paradise Rebekah Lodge; B. P. O. E., and the Ancient Order of United Workmen.

Chief Thomas Langford Dies

Thomas R. Langford, 80, a member of the New York Fire Department for 46 years, and who retired in 1932 with the rank of deputy chief, died at his home in Brooklyn, March 22, 1945.

Chief Langford was known nationally as a fire fighter and was cited seven times for valor. Surviving are two sons, Lieut. Thomas Langford, Jr., of the Fire Department, and Charles Langford; two daughters, Mrs. Eleanor Miller and Mrs. Mary Daly, and thirteen grandchildren.

Chief P. J. Kiernan Dead

Peter J. Kiernan, Fire Chief of the seven plants of the Wright Aeronautical Corporation in the Paterson, N. J., area, died March 24 at the home of his daughter, Mrs. Charles Vogel, of 380 Lafayette Street. He was sixty-two years old.

Mr. Kiernan became chief of the aircraft properties after his retirement in 1942 from the Newark Fire Department, of which he was also chief. He joined the Fire Department in 1906 and was made chief in 1938 after successive promotions. He was twice commended for bravery.

Also surviving are three sons, Peter J. Kiernan, Jr., and James E. Kiernan, both of the Army, and Charles Kiernan, and four sisters, Mrs. Thomas Kennedy, Mrs. William Hermann, Mrs. Kathleen Boyle and Mrs. John B. Varian.

A. C. Hopper Dies

Mr. A. C. Hopper, affectionately known throughout the Southwest fire service as "Old Hop" and for thirty or more years Southwestern representative of the Fabric Fire Hose Company, died February 23rd following a paralytic stroke received last August. The loss of his sight had forced him to retire from active business five years ago.

The many friends of "Old Hop" in the fire service will remember his outstanding personality and popularity and will miss him.

Noted Fire Buff Passes

Dr. Edward R. Gookin, No. 1 fire buff of Washington, D.C., has responded to his last alarm.

Dr. Gookin, 63 years old, a leading eye specialist, died suddenly March 6th. He had never entirely recovered from

PILLARS OF SOCIETY

Protectors of the public welfare . . . guardians of the peace . . . they are these and much more—not in high-flown tribute, but in cold, actual fact.

To help these civil servants do a better job, new and more efficient methods for protecting the public safety are constantly being devised. Take, for example, communications . . .

The communications system in your community is fast and reliable. It provides instant, constant contact between two or more points . . . lessens the chances of error . . . enables the exchange of full information . . . cuts down property losses and helps protect life.

Here at Harvey-Wells, engineering skill and imagination produce communications equipment of technical perfection for police and fire work — designed and constructed for complete dependability.

Harvey-WELLS
ELECTRONICS
SOUTHBRIDGE, MASSACHUSETTS

Fyr-Fyter equipment has proven its value in preventing small fires from becoming disastrous through the loss of life and property. Recent catastrophic fires with terrific loss of life emphasize the urgent need of fire protection. A Fyr-Fyter Instant will usually check most any fire if used immediately.

HELP SAVE LIVES AND PROPERTY

Get Fyr-Fyters for safety's sake. We advise and serve war production plants, public institutions, etc., immediately. Write us today regarding Fyr-Fyter equipment for your own protection.

THE FYR-FYTER COMPANY
Dept. 101, Dayton 1, Ohio

ARMY NAVY WAR BOARD

Fyr-Fyter

JANESVILLE QUALITY TURN OUT CLOTHING

Our turnout suits are giving excellent satisfaction in most of the large fire departments throughout the U. S. and

THERE MUST BE A REASON WHY SO MANY FIREMEN INSIST ON JANESVILLE QUALITY

NOW AVAILABLE!
We can now supply old type ¾ Felt-lined Firemen's Boots.

JANESVILLE APPAREL CO.
JANESVILLE, WIS.

a wound received at Metz during World War I at which time he had served in the Army Medical Corps as a Lieutenant.

Dr. Gookin, tall, distinguished and a gentleman of the old school, was a familiar figure at every big fire and his office was lined with fire pictures. He was the best friend the Washington Fire Department ever had. Almost every evening he would drop in for a short visit to Engine 1 nor far from his home. During an economy wave it was proposed to merge this historic old company with another. Dr. Gookin made a successful appeal to members of Congress arguing that No. 1 was first due at the White House and should remain right where it was. He was a member of the Board of Awards for medals for firemen. While a student at the University of Maryland Medical School, he witnessed the great Baltimore fire. He was an honorary Deputy Chief in his beloved home town of Boston and a member of the Box 52 Association. In 1940 he organized the Friendship Fire Association along the lines of the Boston organization and named after the Friendship Fire Company at Alexandria, of which George Washington was a member. To Dr. Gookin was always given the No. 1 Washington Fire Department fire lines pass but he seldom had to use it because he was so well known to firemen and policemen alike.

Dr. Gookin took post-graduate work at New York University and the University of Vienna. He was a member of the American Legion, the District of Columbia Medical Society, the American College of Opthalmologists and of St. John's Episcopal Church, famous through having been attended by so many presidents. He taught at Georgetown Medical School. He accompanied President Harding on the ill-fated trip to Alaska and was with the party when the President died in San Francisco.

Dr. Gookin, who was survived by his wife and three children, Miss Carroll, Richard, and Miss Eleanor, was buried with military rites in Arlington National Cemetery. Chief Stephen T. Porter of the Washington Fire Department was among those attending the funeral.

ROBERT D. HEINL

Captain H. T. Armington Promoted

Captain Harry T. Armington, formerly of the Armington Manufacturing Company, Sycamore, Ill., has been promoted to Major.

Major Armington is serving with the Corps of Engineers, Third Service Command Procurement Department, Washington, D. C.

Chief Payne Becomes Commissioner

Fire Chief William H. Payne, of the Spokane Fire Department first vice president of the Pacific Coast Association of Fire Chiefs and prominent in the International Association of Fire Chiefs was a successful candidate in the recent municipal election for Commissioner of Public Safety of the City of Spokane. He becomes head of the department of the Spokane City government of which he has been an active part for many years.

FIRE ALARM TRANSMITTERS
Manufactured to
STANDARD or INDIVIDUAL SPECIFICATIONS

A - B - C — 4 to 26 DIGET
FIRE ALARM
TRANSMITTER

SOUTHERN SWITCH & SIGNAL CO.
SHREVEPORT, LA.

PARADISE BLANK-IT SPRAYS
have these features
APPLICATION
VOLUME
AREA
RANGE
& LOW
OPERATING PRESSURE

Covered by U. S. Patents
1922259; Re. 19913; 2284443;
2292794; 2254751.

PARADISE MFG. CO.
3165 S. PENNSYLVANIA ST.
INDIANAPOLIS 44, IND.

Steubenville Chief Retires

Chief Edward J. Green of the Steubenville, Ohio, Fire Department, retired from active service April 1, 1945, owing to poor health after 44 years in the De-

Chief Edward J. Green

partment. He was appointed fireman in September, 1901; captain in 1912 and chief in 1918. During his service he saw the department more than doubled in size. Chief Green is a member of the International Association of Fire Chiefs, Great Lakes Division, Ohio Fire Chiefs Association, and International Association of Fire Fighters. He was twice president and later was secretary-treasurer of the Ohio Association.

Chief Green has been a familiar figure at International Fire Chiefs Association conventions for many years, and he is particularly well known in the Tri-State District of Ohio, West Virginia and Pennsylvania for his interest in advanced fire fighting and first aid work.

Colonel White Leaves OCD

Colonel Edward L. White has left the national Office of Civilian Defense, Washington, D. C., and the post of Chief of the Protective Property Division to take up duties in another field.

It is understood that the program of disposing of surplus civilian defense equipment, including fire fighting materiel will henceforth be directed by Mr. Bonnstetter, of the Office of Civilian Defense, who for some time has been in charge of accounting.

Colonel White, who was identified with the fire defense program of the Office of Civilian Defense from its earliest days, has enjoyed nationwide contact with the country's fire service, which, through his cooperative efforts came to understand and appreciate the complex problem of administering the millions of dollars worth of fire fighting equipment distributed as part of the nation's civilian protection program.

Unofficially, Colonel White cooperated with the special committee made up of representatives of leading national fire service and other organizations, kindred to the service, which has been concerned with the final disposal of this

Here's the

Quicker, Safer Way to Put Out Fires

The Universal Nozzle provides the *quicker* way to put out fires because the hoseman can change the type of stream in an instant for any sudden change in fire conditions. The Universal Nozzle provides the *safer* way to put out fires because it can put a 130 degree water curtain between the hoseman and the flames . . . also in an instant . . . while retaining a solid stream, if desired. The Universal is the versatile nozzle, proved by seven years of actual use under all conceivable conditions.

Solid Stream • Fog • Water Curtain
or Any Combination
with

The UNIVERSAL NOZZLE

Satisfied Users Include

The U. S. Army and Navy at their air stations, the U. S. Coast Guard on its vessels, in addition to industries and municipal fire departments everywhere.

Write for Details

Inquiries about this remarkable nozzle are invited. Dealers, industries, and fire departments will be sent full details without any obligation.

L. N. CURTIS & SONS
Emergency Equipment
451 Hudson St.
OAKLAND 9, CALIF.

EDDY
Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience goes into their manufacture and they embody valuable and exclusive features.

Write for the FACTS.

EDDY VALVE CO., Waterford, N. Y.

MANHATTAN FIRE HOSE

Radio-Active Treated, Mildew-Proof . . . Rot-Proof . . . Freeze-Proof . . . and with FLEXLASTICS* for longer Service life. Every length Pressure-Tested and Flat-Folding for easier, safer handling.

*The term FLEXLASTICS is an exclusive MANHATTAN trade mark. Only MANHATTAN can make FLEXLASTICS.

KEEP AHEAD WITH MANHATTAN

51st YEAR

THE MANHATTAN RUBBER MFG. DIVISION of RAYBESTOS-MANHATTAN, INC. Executive Offices and Factories, Passaic, N. J.

The element of time is of first importance in the successful treatment of burns. If a burn is treated within 15 minutes after it occurs, the probability of blister formation is reduced to a minimum. But if time is wasted before proper treatment is started, serious complications and infection may follow.

When using Gebauer's TANNIC SPRAY in the treatment of burns, the factors involving time-loss are eliminated. This preparation is a stable solution of tannic acid ready for immediate use. Packaged in a sturdy amber bottle having an automatic dispensing cap, which permits the projection of the solution in the form of a fine jet stream. Upon application the solvent evaporates rapidly, covering the burn with an evenly applied, dry and flexible film of tannic acid.

Gebauer's TANNIC SPRAY is a practical *first* first-aid treatment for first, second, and small area third degree burns. Write for literature.

THE GEBAUER CHEMICAL CO.
9410 St. Catherine Ave. • Cleveland 4, Ohio

wartime emergency equipment. Latest reports from the nation's capital indicate that the OCD disposal program is having considerable thought and legislation is expected in the near future which will take into consideration the committee's ideas and recommendations already submitted to the Senate.

Arthur G. Sullivan Advanced

Announcement has been made by Mr. Charles H. Stephens, president of the Buffalo Fire Appliance Corporation, of the election of Mr. A. G. Sullivan as vice president of the company.

A. C. Sullivan

Mr. Sullivan joined the corporation several years ago as sales manager of the motor fire apparatus division and later was made general sales manager with supervision of sales in both the motor fire apparatus and fire extinguisher divisions. He is well and widely known in the field of fire protection and prevention and during the past year has served as president of the Chemical Fire Extinguisher Association.

This year the Buffalo Fire Appliance Corporation is celebrating its Golden Anniversary, the organization having been founded in 1895. Since Pearl Harbor, much of the company's manufactured fire apparatus, extinguishers and other special equipment has been for the armed forces and its products are in use throughout the world.

Chief W. J. Noble Celebrates Fiftieth Anniversary

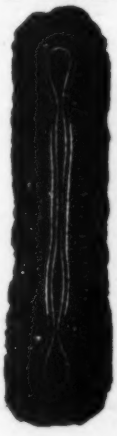
Fire Chief William J. Noble of New Britain, Conn., celebrated his fiftieth anniversary as a fireman on April 5, 1945, and on March 20 he completed 25 years as head of the fire department. He will be 72 in December, and is a member of the International Association of Fire Chiefs, and the New England Fire Chiefs Association.

Carter Bowser Appointed Marshal

Carter Bowser, since 1940 Chief of the Fire Department of Fort Wayne, Indiana, has been appointed Fire Marshal of the State to succeed Clem Smith, whose retirement was previously announced in FIRE ENGINEERING. Chief Bowser was sworn in April 2.

The new Marshal started his fire service by entering the Fort Wayne Fire Department in 1920. In 1928 he was

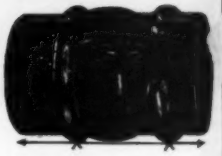
DOUBLE SERVICE with BI-LATERAL



This installation shows the position of the rubber lining in BI-LATERAL FIRE HOSE when held in a flattened position between calls into service. This is why we can save a city one replacement because this hose will give double service of any hose constructed under the old method.

Also we can load 25% more on the apparatus bed actually making an $8,000 truck loaded with Bi-Lateral construction, cheaper than a $7,000 one loaded with other construction.

Here's the new DROP-FORGED rocker lug coupling (not cast bronze) with the swivel protecting feature.



BI-LATERAL FIRE HOSE CO.
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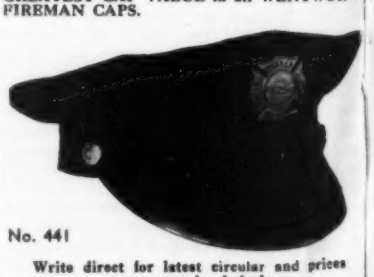
WENTWORTH FIREMAN'S UNIFORM CAPS
Union Made Prompt Deliver

No. 342

Wentworth Fireman Caps are made of the Highest Quality Standard Materials available and by the Best Skilled Union Craftsmen in all the New and Standard styles. Our 50 years of experience and skilled workmen guarantee you AMERICA GREATEST CAP VALUE in all WENTWOR FIREMAN CAPS.



No. 441

Write direct for latest circular and prices or see your local dealer.

WENTWORTH-FORMAN CO., INC.
578b Washington St., Boston, Mass.
Manufacturers
Fireman Cap Specialists for Over 50 Years

NOZZLE PRESSURATER

FOR PERMANENT INSTALLATION ON FIRE ENGINE PUMPERS

•

Indicates Nozzle Pressures

•

Installed on the Pumper

•

Enables Pump Operator to Maintain Desired Pressures On All Lines

•

Helps Protect Firemen From Accidents

•

Fool-Proof

•

Easily Read

•

When installed on each hose outlet of a fire engine, the No. 171 Nozzle Pressurater instantly gives the operator the accurate velocity pressure of the stream discharging from each nozzle. It does so irrespective of the length, size and condition of the hose or the elevation of the nozzle. It eliminates all guesswork and the necessity for any hydraulic calculations by the engine operator.

Write for Bulletin No. 171-1

BARTON INSTRUMENT COMPANY

2306 E. 38th St., Los Angeles 11

appointed to captain and was made chief of the fire prevention bureau in 1929. He was appointed chief of the department in 1940, which position he resigns to become Fire Marshal. He is a member of the International Association of Fire Chiefs and a past president of the Indiana Fire Chiefs Association.

Chief William Livingston Elected Mayor

William Livingston, former fire chief of Tarrytown, N. Y., and president of the Fire Chiefs Emergency Plan of

Mayor William Livingston

Westchester County has been elected mayor of Tarrytown. Ex-chief Livingston also served as fire commissioner and director of civilian protection of the community.

Chief John O'Hearn Honored

Ex-chief John W. O'Hearn, secretary of the New England Association of Fire Chiefs, who was recently elected selectman of the city of Watertown, Mass., was tendered a testimonial dinner March 22, 1945, at which over 600 persons, including a long list of notables prominent in the fire service, government and civilian life, joined to honor the ex-chief and founder of the city's paid fire department.

Chief Selden R. Allen of Brooklyn was toastmaster and the 160 fire chiefs present represented every state in New England. State and city officials, members of the armed forces, members of the clergy and of the local fire department praised Chief O'Hearn's many years of service and his progressiveness in behalf of fire prevention and protection.

George Cobb Commissioner of Firemen's Relief

George F. Cobb, of Boston, Mass., has been appointed commissioner on firemen's relief, to succeed Vincent C. Stanley, whose term has expired. Mr. Cobb has been identified with the fire service in different ways for many years and is widely known.

Chief C. W. Randlett Dies

Clarence W. Randlett, 61, retired Newton, Mass. Fire Chief, died at his home 63 Bowen Street, Newton Center, Mass., February 19th. He joined the fire department in 1901 and became chief in 1924. He retired in January, 1943. Chief Randlett was a member of several fraternal organizations.

C. F. REININGER
Vice-Pres. & Gen. Mgr.

POWHATAN
BRASS & IRON WORKS

Announces—
the appointment of

DON GLESSNER as
superintendent

DON comes to us with a wealth of experience in the manufacture of brass goods for fire departments. This means that we will give our friends in the fire service even *better* brass products than we have in our 53 years of service in the fire field.

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RANSON ★ WEST VIRGINIA
Phones 93 & 94 Charles-Town, West Virginia
Established 1892

HARRINGTON FA-26

HARRINGTON
FIRE ALARM BOX

THESE high quality fire alarm boxes are made of cast aluminum inside as well as out. This makes for fast, light, easy installation and long life, free from corrosion.

They are equipped with quick action doors, made to meet every specific requirement, and are non-interfering of the shunt and successive type circuit.

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SIGNAL COMPANY
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"ALL AMERICAN CHOICE"
INVINCIBLE NOZZLES
PREPARE — PROTECT

Portable equipment is the watchword of today.

Buy

INVINCIBLE NOZZLES

and enjoy the benefits derived by experience of the pioneers in the nozzle field.

Fig. 403

F. N. McINTIRE BRASS WORKS
Successors to A. J. Morse & Son, Inc.
BOSTON, MASS.
1837 — 1945

War Fare

By Roi B. Woolley

O.P.A. Recognizes Fire Fighters

The Office of Price Administration has reduced the eligibility purchasing list for new 1942 passenger cars from 26 to 8 groups. Those eliminated will be eligible to buy 1942 used cars. Only about 10,000 cars remain for rationing after March. The principal change eliminates home-to-work driving as a qualification for a new car. Among the groups retained on the list, are included *"Government employees, provided they are engaged in fire fighting, crime detection, etc."* In the future, 1942 used cars can be bought only by persons eligible for preferred mileage of 200 a month for at least a year.

* * *

Living Explosion Hazard

At Ft. Benning, Ga., S/Sgt Melvin Kittelson, back from Attu, gave an account of his outfit's most unpopular member. The soldier found what appeared to be a stick of candy wrapped in red waxed paper in a Japanese machine-gun nest. It tasted like candy. After he had eaten half the stick, another soldier, familiar with Jap print, identified the "candy" as dynamite. They shoulda put signs on him: USE NO HOOKS . . . KEEP FIRE AWAY . . . HANDLE WITH CARE!

* * *

Boys + Souvenirs = Blasts!

Add this to your horrible examples. In Macon, Ga., four boys were killed and a fifth seriously injured by an explosion, apparently of a grenade, on near-by Camp Wheeler mortar range. In ages from eight to eleven years, the lads apparently found an unexploded grenade, and it let go, while they were trying to climb out of a trench. The injured boy had arm and leg shattered.

* * *

Looks Like an Injustice!

According to a Canadian correspondent, the Dominion fire fighters who recently returned from service in Britain are not entitled to any of the benefits provided for members of the armed forces of the Dominion. The Canuck fire fighters went to Britain under auspices of the Canadian government, after being requested not to join the armed forces. The men received their pay and allowances from the Dominion government, but they were never classed as members of the armed forces and thus are ineligible for gratuity as this was confined to those who served in those forces.

Reports are that steps have been taken to secure an Act of Parliament to give these men entitlement under the various measures that have been enacted for veterans.

* * *

Canada Ends CD; Equipment on Block

The Canadian government is selling practically all the equipment of its Civil Defence organization corresponding to the Office of Civilian Defense in the United States, and the Canadian Service is being disbanded, it was reported March 12.

Disposal of the Canadian equipment has been turned over to the War Assets Corp., a government agency, which es-

USE
Shuredry
SALVAGE COVERS

Control loss from water damage

Never before have people been so conscious of the importance of adequate equipment for fighting fire.

With Shuredry Salvage Covers and thorough drill in their use as covers and catchalls you can improve your department's record. Light and easy to handle—they do not freeze even at very low temperatures. Shuredry salvages will not crack when folded for storage.

Write for information and prices.

Fulton Bag & Cotton Mills
Manufacturers since 1870
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BOOKS

For the Modern Fire Fighter . . .

Recognized by the Fire Service as Standard

Questions and Answers for Lieutenant and Captain—$2.50

Promotional Study Course for Firemen—$3.00

Fire Chief's Handbook—$4.00

Fire Service Hydraulics—$3.00

(The Above Prices Are All Postpaid)

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24 West 40th Street
New York 18, N. Y.

timates that $5,000,000 worth of the original $5,500,000 equipment can be salvaged. Cities and towns in which emergency fire equipment was placed were given first priority to buy the equipment, and many of them are reported to have taken advantage of it. In the U. S. A., only about one-fourth of OCD's equipment has been declared surplus for disposal, and most of this is not fire fighting equipment. The rest, more than $30,000,000, reports say, is in the hands of state and city defense councils all over the country and OCD officials state they can't dispose of it without legislation by Congress. It is this equipment, which the International Association of Fire Chiefs recently recommended to Congress to dispose of so as not to injure the fire service and its fire apparatus industry.

* * *

England Ends Fire Watch

After five years of service, and even while German V-bombs are still falling on the British Isle, the "fire guards" of London and many other areas of southern England who have stood, or slept, by their fire fighting equipment for five years, have been dismissed by Herbert Morrison, Minister of Home Security.

Morrison announced this latest indication of the government's confidence that the Luftwaffe no longer can engage in fire raids to the House of Commons, saying that officially the duties of fire guards end at noon the 23rd of March.

Coming as this does with the disbanding of Canadian civilian defense, it prompts the question, how much longer will this country continue to maintain air raid alarm and control centers, with salaried officials and —in some cases— costly communications facilities?

* * *

Help to Hitler and Hirohito

Here are just a few of the recent fires that console our enemies:

NEWARK, N. J.: FBI are probing 3-alarm fire which destroyed $200,000 worth of cloth intended for Army tents, March 13.

NEW YORK CITY: When electric transformer exploded fire swept big six story brick building of Brooklyn Edison Co. Firemen battled blaze two hours. Loss not given.

WEEHAWKEN, N. J.: Fire on Panamanian freighter Eureka, March 8, burned two hours before nine Coast Guard, and two N. Y. C. fireboats could control it. Origin—"undetermined." Ship was loaded with vital food products and cement.

BABYLON, N. Y.: Third fire in two months at field station in No. Babylon of U. S. Dept. of Agriculture and State Dept. of Agriculture's Bureau of Entomology destroyed the third and last of the station's three buildings, March 7. Incendiarism suspected.

NEWFIELD, N. J.: Fire on March 19 destroyed plant of Specialty Glass Company, manufacturers of pressed glass and laboratory equipment; damage $150,000. Short circuit blamed by firemen.

GREENCASTLE, PA.: Valuable military supplies were destroyed March 8 when explosions and fire swept two-story A. R. Warner storage plant with injuries to two men. "Loss may run into millions" with building damage $150,000, Mr. Warner reported.

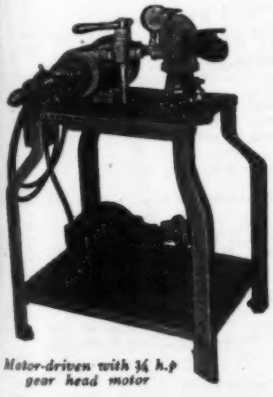
HOSE BRASS GOODS
WB LINE
THE WOOSTER BRASS CO.
WOOSTER, OHIO

BACK THE ATTACK ON FIRE WITH FIRE DEPARTMENT SUPPLIES OF DISTINCTION

THE WOOSTER BRASS CO.
WOOSTER, OHIO

When you specify products bearing the TRUMPET trade mark, you can SAVE and BANK on SAFETY.

In Line with
NATIONAL DEFENSE
DAYTON POWERDRAULIC



Motor-driven with ¾ h.p gear head motor

★ Expands couplings from ¾" to 6" size.
Tests hose up to 700 lbs.
Extra attachment removes old expansion rings from old couplings. No manual effort needed. ★

FOR THE PROPER CARE OF HOSE
MORE PRESSURE - LARGER MOTOR
ROOMIER WORK TABLE
REPLACEMENT SEGMENTS (ALL SIZES)
FOR ANY OLD HYDRAULIC EXPANDER

SEND FOR ILLUSTRATED BULLETIN
DAYTON FIRE EQUIPMENT CO.
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ONE OF 70 MASTER-LIGHTS

TYPE WS MILE-RANGE HAND SEARCHLIGHT

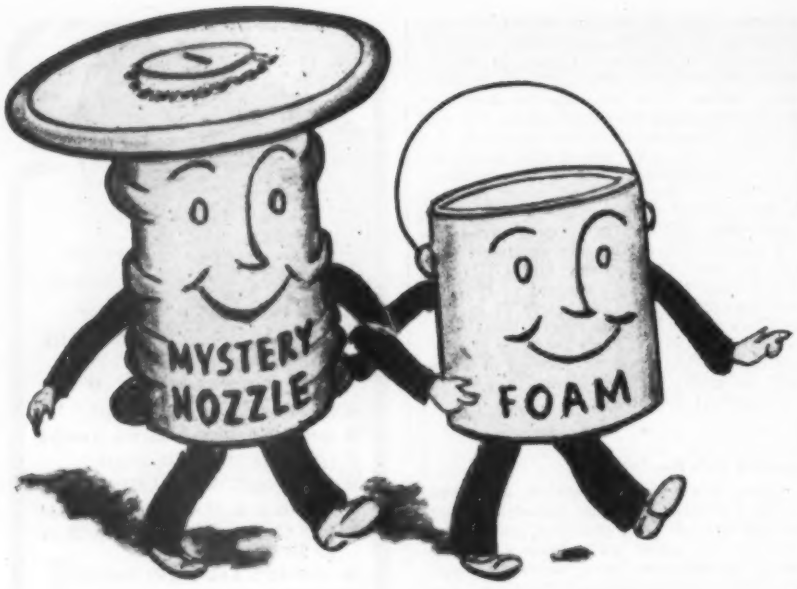
● RECHARGEABLE ●
● LIGHTEST IN WEIGHT
● MOST POWERFUL—MILE RANGE
● LONGEST BURNING HOURS
● ALL NIGHT WORK LIGHT OR
● 150,000 C. P. SEARCHLIGHT BEAM
● SLIP SPARE BATTERY IN PLACE IN 20 SECONDS
● "PERFECT BALANCE" HANDLE

SEND FOR NEW FREE EMERGENCY LIGHTING BULLETIN

CARPENTER MFG. CO.
200 Master ★ Light ★ Bldg.
Boston 45, Mass.
"MASTER ★ LIGHT ★ MAKERS"

CIRCUL-AIR
FIRE HOSE DRYER
- Is easier to use
- Saves drying time
- Reduces hose stretch
- Prevents mildew and rot
- Improves building design
- Air-conditions as it dries

THE CIRCUL-AIR CORPORATION
6339 East Palmer Avenue
DETROIT 11, MICHIGAN



When Good Fellows Get Together ...the Results are AMAZING!

RIGHT ALONG we've claimed that our Mystery nozzle is America's finest all-purpose nozzle (complete shut-off to solid stream to varying degrees of conical fog). Now this claim is given further support in letters and reports from fire chiefs and large industrials throughout the country, telling us that our Mystery nozzle is the finest thing they have ever found for use with foam.

The effectiveness of the Mystery nozzle in this brand-new technique is further proof of its amazing versatility—versatility that makes it required equipment for every modern fire-fighting unit.

ELKHART BRASS MFG. CO. Inc.
ELKHART, INDIANA

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APRIL, 1945

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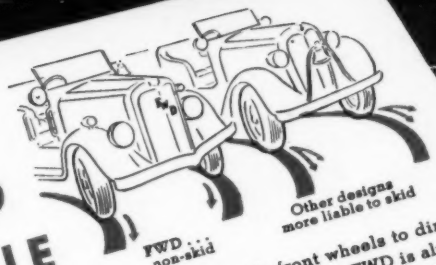
FWDs ALWAYS "URE-FOOTED"

NO SLIP NO SKID NO SLUE



Four Wheel Drive powered steering traction holds front wheels to direction of turns. The propelling force to the front axle of the FWD is always in the same direction in which the truck is steered, minimizing skidding and giving more positive steering control. Skidding tests conducted on ice show 50% less skidding due to powered front axle alone.

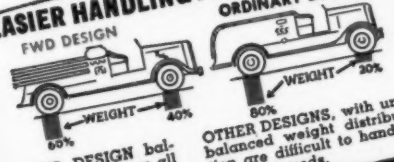
WRITE FOR LITERATURE

THE FOUR WHEEL DRIVE AUTO COMPANY, Clintonville, Wis.

Canadian Factory: KITCHENER, ONTARIO

FWDs Go Where Other Vehicles Fail
NO ROADS TOO TOUGH OR STEEP FOR FWDs

EASIER HANDLING AT HIGH SPEEDS



FWD DESIGN balances weight on all four wheels . . . assures easy handling at any speed.

OTHER DESIGNS, with unbalanced weight distribution are difficult to handle at high speeds.

FASTER GET-AWAY

FWD power on all four wheels gets a four-way grip on any road and assures faster get-away.

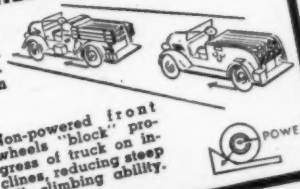
Other designs, lacking drive on front wheels, lose time in get-away.

QUICK, POSITIVE, SAFE EMERGENCY STOPS

FWDs have two separate and independent 4-wheel braking systems, with brake drums on each wheel. Combined with properly balanced weight distribution, these provide the most effective braking possible.

GREATER HILL-CLIMBING ABILITY

FWD's front wheel pulling power increases hill-climbing ability. Reserve traction in all 4 wheels.



Non-powered front wheels "block" progress of truck on inclines, reducing steep hill-climbing ability.

FWD

FOUR-WHEEL-DRIVE *Fire Apparatus*

GETS TO FIRES FASTER and SAFER!

A WARNING TO FIRE DEPARTMENTS

Don't make the mistake of confusing the new WATERFOG method with ordinary spray

BECAUSE of the many stories coming out of the war about the amazingly rapid action of *Waterfog* in extinguishing all types of fire, many municipal, industrial and volunteer fire departments are rushing to equip themselves to use this efficient and economical method.

It is important to remember there is a vast difference between true *Waterfog* and ordinary spray, such spray as might be produced by the nozzle of a garden hose, for example, regardless of the amount of water pressure used.

Waterfog does not require the use of special ultra high-pressure equipment. True *Waterfog* is produced by the action of externally impinging water streams, the patented principle used in Fognozls*. The efficiency of this method, at water pressures of 75 to 250 lbs., has been proven beyond any shadow of doubt.

The success of *Waterfog*, as produced by Fognozls*, is due to several very simple factors – the scientifically determined uniformity of water particles permitting full conversion to steam – the almost instantaneous displacement of the oxygen feeding the fire – the rapid dilution and dissipation of poisonous vapors and smoke – the greatly enlarged cooling area and quick lowering of temperature below the combustion point – the full protection that permits almost immediate access to the source of the fire.

The following are important points to know about true WATERFOG.

1. True *Waterfog* can be produced only by the action of externally impinging water streams, the patented principle used in Fognozls*. The high efficiency of this method obtains complete atomization of water at universally available water pressures.

2. As produced by Fognozls*, *Waterfog* is projected in a solid mass, not in a hollow cone, and without air pockets to permit flashbacks.

3. To use *Waterfog* successfully on all types of fire, both high and low velocity fog must be instantly available – without requiring the use of special high-pressure pumping equipment.

4. For true *Waterfog*, ordinary water pressures of 75 to 250 lbs. are preferred because adequate water volume is projected at these pressures to attain maximum speed and efficiency of extinguishment.

5. The almost miraculous speed of extinguishment accomplished with *Waterfog* is due, primarily, to the scientifically determined uniformity of water particles. These are carried by the heat currents themselves into the source of the fire, displacing oxygen, diluting vapors, dissipating smoke, instantly converting to steam, and rapidly cooling the atmosphere below the combustion point.

6. When projected as *Waterfog*, the efficiency of water as an extinguishing agent is magnified many times. Thus minimum quantities are required and consequently water damage is greatly reduced.

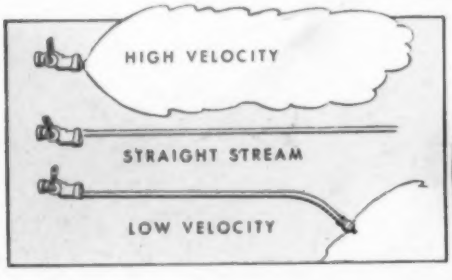
7. The use of Fognozls* and Fognozl Applicators for the production of *Waterfog* has been thoroughly tested and approved. They are standard equipment on aircraft carriers and other ships of the United States Navy, the Coast Guard, the Merchant Marine; and are used extensively by the United States Army and the Marine Corps. Hundreds of municipal, industrial and volunteer fire departments, too, have proven the efficiency of Fognozls* and Fognozl Applicators for their own use.

8. Any fire department can be equipped to use the safe, economical and sensible method of *Waterfog*, by the simple addition of Fognozls* and Fognozl Applicators to present equipment. Only a minimum investment is called for and the method is so extremely simple and effective it requires very little training for skillful use.

Complete information will be sent gladly upon request, without obligation

A FEW SALES TERRITORIES OPEN

Exceptional opportunities are open in some sections for a few aggressive sales representatives. A wonderful present & post-war opportunity for men who are willing to work. Write today.



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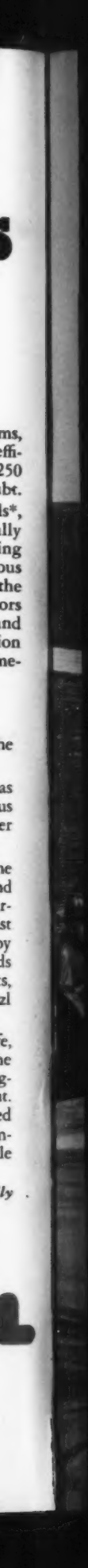
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